ACCREDITATION STRATEGY GUIDE

FINAL VERSION

JANUARY 2025

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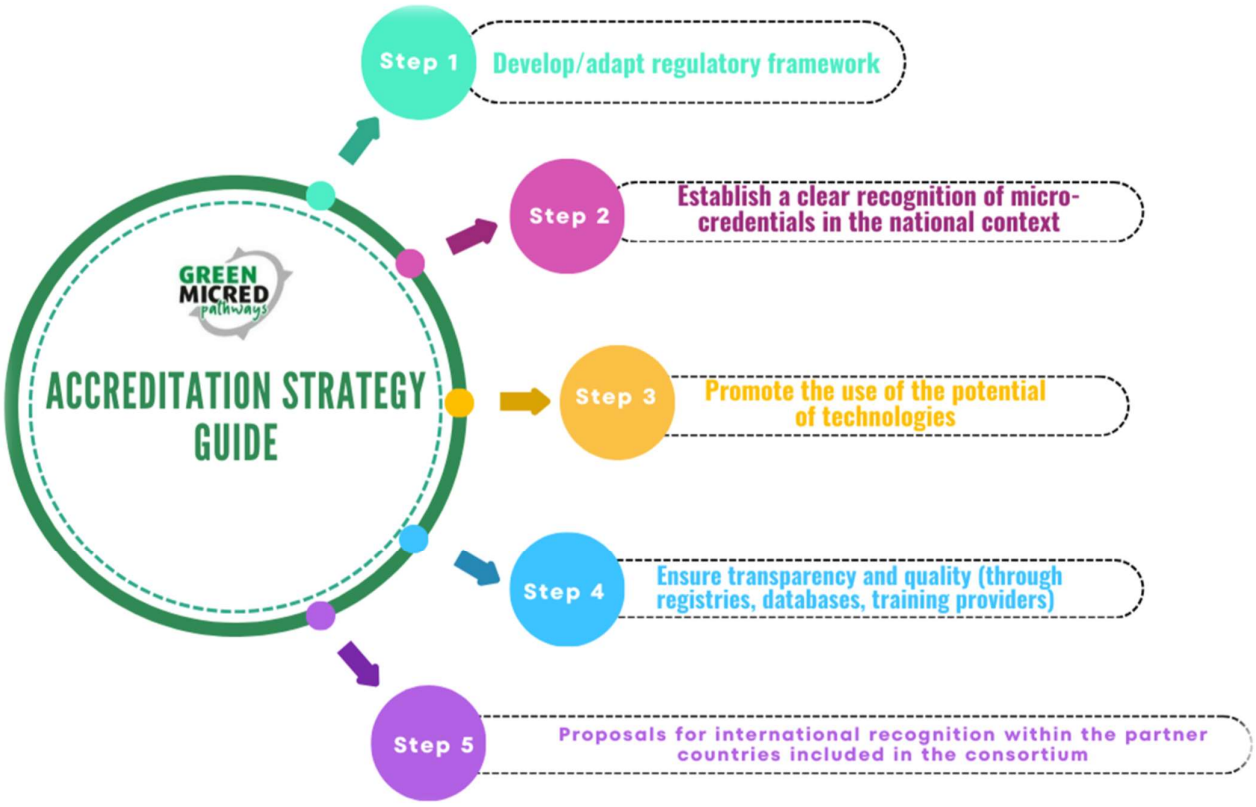
Introduction

This document describes recommended initiatives for the development and issuance of micro-credentials for green skills for adults, which are based on the experience and products created within the GreenMicred project. The consortium's work has implemented the EU goals related to the green and digital transition and the skills needed. Based on in-depth expert work and exchange between partner countries and organizations, a roadmap for the recognition of the useful toolkit has been created.



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General framework

Training programmes play a crucial role in enhancing national qualification frameworks by aligning skills development with labour market needs, policy priorities, and international standards. The integration of such programmes ensures consistency, transparency, and mobility for learners within and across countries.

Definition and alignment of Learning Outcomes

Training programmes should clearly define their learning outcomes in terms of knowledge, skills, and competencies. These outcomes must be mapped to the appropriate levels of the European Qualifications Framework and the respective NQFs.

Stakeholder collaboration

Collaboration among government bodies, accreditation agencies, educational institutions, and industry stakeholders is essential to ensure relevance and alignment with national policies. This also facilitates a coherent approach to lifelong learning and skills recognition.

Quality sssurance mechanisms

Strong quality assurance systems, aligned with frameworks such as the European Quality Assurance in Vocational Education and Training (EQAVET), are necessary to validate the design, delivery, and assessment of training programmes.

Recognition of prior learning

Incorporating RPL frameworks allows for the acknowledgment of skills acquired through non-formal and informal learning, further enhancing the flexibility and inclusivity of training programmes.

Policy alignment and EU initiatives

Programmes should align with EU initiatives such as the European Skills Agenda and the Pact for Skills to ensure consistency with broader European goals for upskilling and reskilling. The European Skills Agenda, in particular, emphasises the importance of micro-credentials, green skills, and digital competencies, which can be integrated into NQFs through structured training programmes.

Portability and mobility

Using well recognised tools like Europass and EURES ensures the portability of qualifications and facilitates labour mobility across member states.

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The value of micro-credentials

Micro-credentials have emerged as a transformative tool in modern education, offering an innovative way to address skills gaps and align learning outcomes with labour market demands. They promote lifelong learning by allowing individuals to acquire, update, and certify skills in a modular format. This flexibility is particularly critical in an era characterised by rapid technological advancements and evolving job requirements.

Adaptability and resilience

Micro-credentials enable learners to respond quickly to industry changes by acquiring targeted skills. They support career mobility and adaptability, particularly in sectors like technology, green energy, and healthcare, where skill requirements evolve rapidly.

Recognition of non-formal and informal learning

Micro-credentials validate skills gained through informal and non-formal pathways, such as workplace learning and online courses. This recognition enhances employability by demonstrating verifiable competencies to employers.

Bridging education and employment

Employers value micro-credentials for their focus on specific competencies directly applicable to job roles. By involving employers in the design and validation of micro-credentials, education providers can ensure alignment with labour market needs.

Contribution to lifelong learning

Micro-credentials encourage continuous professional development by enabling learners to stack credits towards larger qualifications. They support inclusion by offering accessible, short-term learning opportunities for diverse populations, including working adults and disadvantaged groups.

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Country	Status of Recognition	Key Challenges	Notable Progress
Bulgaria	Limited; aligned with parts of professions	Lack of regulation for micro-credentials	Integration into vocational education
Latvia	Partial; linked to module completion	Overly strict regulations for non-formal education	Pilot projects in digital skills
Ireland	Recognised; formal validation by QQI	Slow validation process	Employer-supported bespoke programmes
Sweden	Emerging; industry-led	Limited public education integration	Regional industry acceptance
Spain	Advancing; linked to MECU	Standardisation and employer awareness	Renewable energy and vocational training
North Macedonia	Minimal; under legislative development	Lack of experience in implementation	Anticipated alignment with EU standards

Comparative table: recognition of micro-credentials across countries

Theoretical basis for accreditation

Accreditation forms the cornerstone of ensuring the credibility and quality of training programmes, particularly micro-credentials, in modern education systems. The theoretical underpinnings of accreditation are grounded in academic rigor, policy alignment, and a commitment to fostering lifelong learning opportunities.

Academic foundations

Accreditation validates the learning outcomes of micro-credentials, ensuring they meet the standards set by educational institutions and industry stakeholders. It leverages competency-based education principles to align training programmes with measurable skill development and employability outcomes.

Policy-driven foundations

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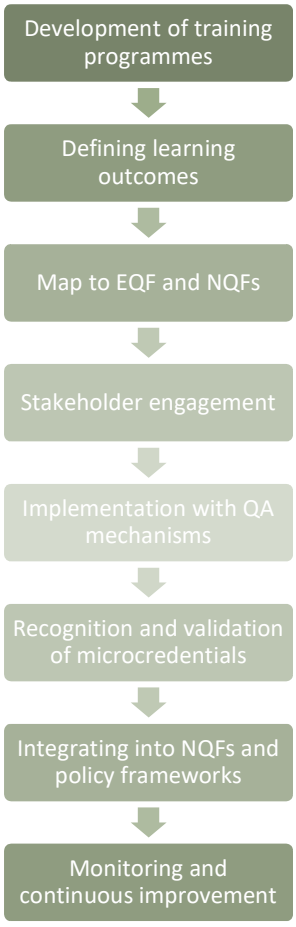
Accreditation frameworks are shaped by international guidelines such as the EQF, which fosters comparability and mutual recognition across borders.

EU initiatives, including the European Skills Agenda and the Council Recommendation on Micro-Credentials, emphasise the importance of accreditation in modernising vocational education and addressing skills mismatches.

Addressing skill gaps

Micro-credentials address specific industry needs, offering targeted skill development in areas such as green technologies, digital transformation, and health care. Accreditation ensures that these credentials are trusted by employers, thereby bridging the gap between education and labour market requirements.



The following diagram visually represents the flow from the development of training programmes for micro-credentials to their integration into NQFs, highlighting the critical role of mapping, stakeholder engagement, quality assurance, and validation processes.

Summary Diagram: alignment processes for different countries

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1. Integration of training programmes into national frameworks

1.1. National Qualification Frameworks

Bulgaria

The program created within the project is compatible with the national qualification framework of Bulgaria. In the construction sector, in the list of professions for vocational education and training, there are 8 professions for which the created project results can be implemented. This can be done by using the created learning content in the state educational standards, curricula and programs for these professions. Some reworking and adaptation is required, since the professions are of a lower level according to the European Qualifications Framework EQF (Level 3), but this is easily achievable.

Latvia

The programme has been developed in line with the National Qualifications Framework (Level 4) which is aligned to the EQF (Level 4).

Ireland

Ireland is on a different level than the EFQ, for Ireland it is easy to adapt this as a level 4 EFQ is a Level 5 on the Irish NFQ. As educationalist, we deal with all the different levels all the time.

Sweden

The training programs developed in this project are compatible with EQF. Difficult to link direct the project's program to an existing system.

North Macedonia

We expecting a new legislation to be adopted in North Macedonia regarding NQF which will be fully in line with the EU legislation.

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Spain

In Spain, the integration of microcredentials into the Marco Español de Cualificaciones (MECU) is developing, supported by legislative frameworks like Royal Decree 822/2021, which regulates university education and lifelong learning programs. While microcredentials are not fully regulated, initiatives led by the ANECA aim to establish quality standards for their inclusion in formal qualification systems.

Compatibility with the NQF and EQF

The training programs developed in the GreenMICRED Pathways project align with the European Qualifications Framework (EQF) and can be adapted to Spain's NQF through a structured process. Key to this alignment is ensuring that learning outcomes, skills, and competencies are clearly defined and match the levels of the MECU.

Key Steps for Alignment

1. Define Learning Outcomes: Map the program outcomes to MECU and EQF levels to ensure consistency and transparency.

2. Stakeholder Engagement: Collaborate with Spanish authorities, accreditation bodies, and industry experts to meet national educational standards.

3. Quality Assurance: Implement mechanisms aligned with Royal Decree 822/2021 to validate program design, delivery, and assessment.

4. Recognition and Validation: Establish processes for the formal recognition of microcredentials within Spain's qualification pathways.

5. Enhance Portability: Use Europass and similar tools to ensure transparency and facilitate recognition across borders.

These steps ensure compatibility with Spain's evolving regulatory framework while enhancing the recognition and mobility of learners both nationally and internationally.

The training programs developed in the GreenMICRED Pathways project align with Spain's National Qualification Framework (MEC) and the European Qualifications Framework (EQF). Spain has been actively aligning its vocational training programs with the EQF to ensure compatibility with EU standards and to foster transparency and recognition across member states. The focus on green skills

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at EQF levels 4 and 5, as highlighted in the project, directly corresponds to Spain's priorities for addressing skills gaps in green and circular economies.

To align these programs with the existing frameworks, the following steps are required:

1. Mapping learning outcomes: training outcomes must be carefully mapped to the learning descriptors and competence levels outlined in the MEC and EQF to ensure compatibility and consistency.
2. Engagement with national authorities: close collaboration with the Ministry of Education and Vocational Training and regional education authorities is crucial to formally integrate these programs into the system.
3. Stakeholder collaboration: industry bodies, vocational training centers, and chambers of commerce must be involved in co-designing the curriculum to ensure relevance and acceptance.
4. Quality assurance and monitoring: developing a robust system to validate and assess these programs is essential for their accreditation and recognition as part of national qualification standards.

Summary for all countries:

The developed training programs align with the European Qualifications Framework (EQF) and are adaptable to the National Qualification Frameworks of the listed countries, although with some variations. In Bulgaria, the programs could be integrated into vocational qualifications with minor adjustments. Latvia's framework aligns directly with EQF Level 4, while Ireland's NFQ equates EQF Level 4 to NFQ Level 5, facilitating straightforward adaptation. Sweden's programs are compatible with EQF but face challenges in linking directly to existing systems. North Macedonia anticipates new legislation to align its framework with EU standards. In Spain, integration efforts are supported by some legislative measures with an emphasis on quality assurance, stakeholder collaboration and mapping learning outcomes to align with national and European frameworks.

Overall, the programs demonstrate flexibility for alignment through structured adaptation and stakeholder engagement.

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1.2. Recognition of micro-credentials

Bulgaria

The term “micro credentials” is not widely used in the country and is not included in Bulgarian legislation. However, a similar training model exists in the Bulgarian qualification system in terms of the training of a part of a profession. Vocational training providers offer training courses in a part of a profession and validation arrangements of non-formal and informal learning. The definition of “part of a profession” which corresponds largely in concept to microcredentials is given in the Vocational Education and Training Act.

The term “part of a profession” refers to a specific work activity within the relevant degree of vocational qualification of the profession for which vocational training can be organized. It has to encompass the achievement of at least three units of learning outcomes defined in the state educational standard for obtaining a qualification in the profession, with at least one unit of learning outcomes that belong to the specific professional preparation. Short vocational trainings are convenient and desired by employers, and they are widely available, particularly for present skills in high demand in the labor market.

Institutions in higher education, vocational education, and training are testing the micro-credential model in various pilot projects. They are currently being discussed in a different format in the education system, but there is still no open, broad discussion on the issue.

Latvia

Micro-credentials are not applied in the system of Initial and Continuing Vocational Education and Training in Latvia. With the adoption of the amendments to the Vocational Education Act in 2022, the certificate for completing a module and the certificate for completing a part of a professional qualification (partial qualification) can be regarded as equivalent to the status of micro-qualifications.

This issue is still under discussion with all stakeholders.

Non-formal education programs in most cases are strongly oriented towards the needs of the labor market, however, in some cases, these programs lack some essential elements like quality assurance requirements. Recognizing non-formal education as equivalent to micro-qualifications would necessitate imposing stricter regulations, which would conflict with its inherently informal nature.

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It is thus advisable not to assign the status of micro-qualifications to non-formal education programs in Latvia. Given that the concept of non-formal education is incompatible with overly restrictive regulation, it is preferable to avoid designating them as micro-qualifications.

Currently the employers are engaged in discussions with HE providers regrading micro-credentials. There is a growing demand from employers for higher education offerings that can provide specific knowledge and skills in a short period. While traditional study programs remain highly significant, they often struggle to adapt quickly to changing requirements. Micro-credentials could serve as a solution to bridge this gap.

Ireland

In Ireland, we must submit validation applications to our state certification body Quality and Qualifications Ireland (QQI) to get micro-credentials recognised (if we want them to be on the National Framework of Qualifications). QQI will compile a panel of experts (subject matter and quality assurance) to consider the application. If granted validation, it is renewable every 5 years. The validation process can be difficult and slow so this is a possible barrier.

One barrier is that the credit value of the microcredential that we get validated will not contribute to the credit value of other major awards that we offer.

Employers value microcredentials if they consider the content of the programmes to be relevant to their industry. They prefer short, relevant courses to longer courses that may not be so relevant.

Sweden

There are almost no discussions regarding micro-credentials in Sweden within the school system, but shorter courses or courses are given, and permissions are linked to these.

It is not possible today to link micro-credentials to formal vocational education. Non-formal education provides greater opportunities for the integration of micro-credentials in Sweden.

Micro-credentials in the form of qualification training are accepted by the region's companies.

North Macedonia

Micro-credentials are still not recognized in our legislation.

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Spain

In Spain, the recognition of microcredentials is advancing, with frameworks like those from ANECA ensuring quality and alignment with European standards. However, their integration into non-formal education and vocational training systems faces challenges such as:

- Lack of Standardization: No unified criteria complicates their inclusion in national frameworks.
- Quality Assurance: Ensuring consistent standards across providers, especially in non-formal sectors, remains difficult.
- Employer Acceptance: Employers increasingly value microcredentials but remain cautious due to inconsistent recognition and unclear relevance to job roles.

While progress is evident, addressing these barriers is key to enhancing the portability, credibility, and impact of microcredentials in lifelong learning and the labor market.

The recognition of micro-credentials in Spain is still evolving. Micro-credentials are often integrated into non-formal education, but their application in formal vocational training systems is still under development. Spain has begun leveraging EU frameworks and initiatives to enhance their adoption, with entities like SEPE (Servicio Público de Empleo Estatal) and the Ministry of Education working on harmonizing approaches with EU recommendations.

Barriers to recognition:

1. Lack of standardization: there is no universally recognized structure for micro-credentials in Spain, leading to fragmented approaches.
2. Limited awareness: employers and training providers often lack understanding of micro-credentials' potential and how they can be utilized.
3. Regulatory gaps: micro-credentials are yet to be fully integrated into formal qualifications frameworks, limiting their scalability and acceptance.

Employers in Spain generally value certifications that are recognized by formal qualification systems or associated with industry standards. While there is growing interest in micro-credentials, further advocacy and education about their relevance, particularly for green skills, will help increase employer trust and adoption.

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Summary for all countries:

Micro-credentials are in various stages of recognition and development across the countries discussed. In Bulgaria, while the term is not formally legislated, similar concepts exist in vocational training under the "part of a profession" VETA definition. Latvia has made some progress, recognizing partial qualifications through recent amendments, but non-formal education programs remain poorly regulated. In this context, the information from Latvia includes an interesting observation – equating non-formal education with micro-qualifications would demand severe regulation, which conflicts with its fundamentally informal character. Ireland recognizes micro-credentials through a formal validation process, though barriers such as slow approval and limited credit transfer persist. Sweden has limited discussions on micro-credentials, but they are integrated into non-formal education and accepted by regional companies. North Macedonia does not yet recognize micro-credentials in its legislation. In Spain, efforts are advancing, supported by some frameworks, but challenges such as standardization, quality assurance and employer awareness prevent full integration.

Across these countries, employer interest in micro-credentials is growing, particularly for short, relevant training solutions, but consistent recognition and alignment with formal qualifications frameworks remain key challenges.

1.3. Green skills in national policies

Bulgaria

Green skills are increasingly gaining ground in the education system. With the amendments to the Vocational Education and Training Act of March 2024, mandatory content related to environmental protection is introduced in the state educational standards. Until now, the topic of environmental protection has been addressed in the learning outcome unit “Health and Safety at Work“ of all approved SES.

The new content developed under the project can be used in the updating of the standards, which is planned for 2025.”

Latvia

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The Regulation on the State Vocational Secondary Education Standard and the State Vocational Education Standard (Cabinet regulations No. 332, 02.06.2020) state that educational programs at EQF level 3 must include the module of lifelong learning competencies "Society and human security" (level 1), which includes the following learning outcomes: the ability to analyze the available information about the quality of the environment in Latvia and the world and to act responsibly, conserving and rationally using natural resources, as well as knowledge of the basic principles of environmental protection, possible threats of damage to the environment and preventive measures to be taken to prevent them, and understanding of the situation in environmental protection in Latvia and in the world, the essence of careful use of natural resources and the importance of sustainable management in the studied economic sector. The education programmes at EQF level 4 must include the module "Society and human safety" (level 2) which includes the following learning outcomes: the ability to assess the situation in the field of environmental protection in order to respect and popularize the principles of green thinking, knowledge of the basic requirements of the environmental quality of economic sectors, threats of damage to the environment and preventive measures to be taken, as well as an understanding of environmental protection issues in the world and in Latvia, the importance of the most important environmental protection declarations, conventions and directives in the creation of sustainable development of the environment. Also, since 2012 (updated in 2020), the lifelong learning module "Green skills" has been developed for inclusion in the structure of the changing part of vocational secondary education and vocational education programs, as a result of which the learner is able to explain the most important sustainable development criteria for a specific situation, connect the idea of sustainable development with the rational use of natural resources, evaluate human impact of economic activity on biological diversity, analyze information on the efficient use of energy resources, sorting waste, observing the basic principles of environmentally friendly management. Therefore, the acquisition of general competences on environment and sustainability is ensured in professional education. The situation with specific knowledge, skills and attitudes that would ensure environmentally friendly work processes in each specific field of professional activity is different.

The Employers Confederation of Latvia (LDDK) considers that in the descriptions of professional qualification requirements for professions in the construction, energy and water management sectors shows that there are grounds for concern that they do not clearly and unambiguously define the requirements for competences necessary for productivity growth in an environmentally friendly and sustainable way.

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Ireland

In Ireland, green skills are integrated into national workforce development strategies primarily through the "Climate Action Plan," which aims to transition the economy towards a low-carbon and sustainable state by 2050, by incorporating green skill training into various sectors, including renewable energy, energy efficiency, and sustainable construction, through initiatives like funding for upskilling programs and promoting green job opportunities within government policies.

Examples of green skills integration in Ireland:

- **SEAI (Sustainable Energy Authority of Ireland):**

  Provides training and support for businesses and individuals to improve energy efficiency.

- **Renewable Energy schemes:**

  Government initiatives to promote the development of renewable energy sources, creating demand for green skilled workers.

- **Green Building Standards:**

  Regulations that promote sustainable construction practices, requiring builders to possess relevant green skills.

In an Irish setting it is important to be aware of the above when developing programmes.

Sweden

Green skills are a factor that is highlighted in both national policies and in education and continuing education in Sweden.

Green skills permeate most policies in both the business community and the education system. This makes it difficult to pinpoint specific areas.

North Macedonia

There are no specific green skills competences, which should be accredited in frame of our national framework.

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Spain

In Spain, green skills are integrated into workforce policies through initiatives like the Just Transition Strategy and the National Energy and Climate Plan (PNIEC). Vocational training programs are being updated to support sectors such as renewable energy, energy efficiency, and the circular economy.

Key green skills for accreditation within the MECU include:

1. Energy Efficiency: Implementing sustainable systems in buildings.
2. Circular Economy: Waste reduction and resource reuse.
3. Renewable Energy: Installation and maintenance of solar and wind systems.
4. Sustainable Agriculture: Eco-friendly farming practices.

Challenges include updating curricula quickly, standardizing green competencies nationally, and gaining employer recognition. Addressing these barriers is essential for Spain's green transition.

Green skills are increasingly being integrated into Spain's national policies and strategies for workforce development. The National Integrated Energy and Climate Plan (PNIEC) sets ambitious goals for a low-carbon economy, and green skills are seen as a critical enabler for achieving these targets. Initiatives such as *Formación Profesional para el Empleo* and regional programs focus on upskilling and reskilling workers in areas like renewable energy, sustainable construction, and energy efficiency.

Specific green competencies to be accredited:

- Energy management: knowledge of energy efficiency systems and renewable technologies.
- Circular economy practices: skills related to waste reduction, recycling, and resource optimization.
- Sustainable agriculture and forestry: competencies for environmentally-friendly farming and land management practices.

Embedding these competencies into national frameworks will support the transition to a green economy while meeting industry demand.

Summary for all countries:

Green skills are progressively being incorporated into national policies and education systems in almost all of the listed countries, with varying levels of integration. Bulgaria has recently introduced

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mandatory environmental content in vocational education standards, and the project's outputs are expected to contribute to further updates. Latvia integrates green skills into vocational education through modules emphasizing environmental protection and sustainability, though there are gaps in sector-specific competencies. Ireland embeds green skills into workforce strategies like the Climate Action Plan, promoting training in renewable energy, energy efficiency and sustainable construction. In Sweden, green skills are broadly integrated into policies and education, making it challenging to isolate specific areas. North Macedonia currently lacks accredited green competencies in its framework. In Spain, green skills are connected to workforce policies and initiatives with updates to vocational training focusing on areas such as renewable energy, circular economy and sustainable agriculture.

Despite progress, challenges such as standardization, curriculum updates and employer recognition persist, emphasizing the need for comprehensive integration to support green transitions.

2. Accreditation processes for developed training programmes

2.1. Accreditation bodies

Bulgaria

The Ministry of Education and Science coordinates national policy on vocational education and training (VET). The VET Act defines two target groups: school-age learners and adults (16+ years). State education standards play a major role in shaping qualifications and curricula. They are developed by the National agency for vocational education and training (NAVET) in units of learning outcomes for all VET qualifications (EQF levels 2 to 5).

There is still no clearly defined institution that would take on the role of the responsible body for issuing micro-credentials. If it is assumed at the national level that they will be applied mainly in the VET system, such an authority could be the Ministry of Education and Science, the Ministry of Labor and Social Policy or the National Agency for Vocational Education and Training.

Latvia

The body responsible for accreditation of VET programmes is the State Education Quality Service of Latvia. This institution organises licensing and accreditation of vocational education programmes, and

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accreditation of vocational education providers and examination centres of State, local government and private entities. A licence is a permission to implement a particular programme that meets all requirements of State Vocational Education and Occupational Standards or Professional Qualification Requirements. Providers must ensure proper infrastructure and equipment and, if necessary, obtain an agreement from the relevant professional association. The State Education Quality Service issues a licence for an indefinite period and register the licensed VET programmes in the State Education Information System.

Accreditation is the evaluation of the performance of the relevant education provider and/or the quality of implementation of the education programme. As a result of accreditation, an education provider obtains a right for two to six years to issue a State recognised qualification for a particular programme. During the accreditation process, the quality of the implementation of an education programme is evaluated against criteria aligned to EQAVET. All public continuing vocational education programmes (480 hours or more) and professional development programmes (160 hours or more) must be licensed and accredited by the State Education Quality Service. Graduates of these programs obtain a qualification or partial qualification.

Providers of professional development programmes (159 hours or less) must align them with local government. Public providers can offer non-formal learning programmes as a given. Graduates of these programs obtain a certificate.

Currently none of the accrediting bodies award micro-credentials.

In Latvia VET programs are provided only for professions included into the Sectoral Qualifications framework (except private vocational education establishments). Sectoral Qualifications Framework (SQF) for 15 sectors - have been developed in cooperation with sectoral experts and correspond to LQF levels 2 to 7.

The body responsible for accreditation of training programmes for Higher Education is Quality Agency for Higher Education (AIKA)

The accreditation of a study field is the assessment of the study field and the relevant study programmes implemented by the higher education institution or college. If the accreditation of the study field has been successful, the higher education institution or college shall be awarded the right to issue state-recognized diplomas on the acquisition of the study programmes in the relevant study field.

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Ireland

Quality and Qualifications Ireland (QQI) is the state certifying body in Ireland. As per 1.2 above, providers such as LOETB must submit validation applications to QQI in order to have an accredited programme recognised.

A validation application for the training programmes developed in this project could be submitted to QQI for it to be recognised in Ireland – however, beware that this process is a very slow and complicated process and could take up to a year after submission of application.

Sweden

The Swedish National Agency for Education and the Swedish National Agency for Higher Vocational Education are the authorities responsible for vocational education and training issues.

Contact can be made with the respective authorities to get their views on the programmes developed within the project.

North Macedonia

Currently the new VET law and new Law on secondary education, and new Law for adults education are on the way to be adopted in Assembly till the end of December. The institution in charge for the accreditation is Ministry of education and science.

Spain

- ANECA (National Agency for Quality Assessment and Accreditation): Oversees accreditation for higher education and lifelong learning programs, including microcredentials aligned with European standards.
- SEPE (Public Employment Service): Accredits vocational training programs and certifies professional competencies, particularly for reskilling and upskilling the workforce.
- INCUAL (National Institute of Qualifications): Develops and updates the National Catalogue of Professional Qualifications (CNCP), ensuring alignment of training with the labor market.

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• Regional Education and Employment Authorities: Manage vocational and adult education programs at the local level, ensuring regional relevance and alignment with national frameworks.

Accreditation of training programs in Spain is overseen by agencies such as ANECA (Agencia Nacional de Evaluación de la Calidad y Acreditación), regional education bodies, and SEPE. These organizations ensure that training programs align with national and international standards while maintaining quality and relevance.

Involvement in accreditation:

1. Partnership development: engage with ANECA and regional authorities early in the process to ensure alignment with accreditation requirements.
2. Industry collaboration: partner with sector-specific organizations to validate the industry relevance of training programs.
3. Pilot testing: conduct pilot programs to assess effectiveness and gather feedback for refinement before full-scale accreditation.

Summary for all countries:

The accreditation processes for training programs vary significantly across countries but are focused on ensuring alignment with national and international standards, particularly in vocational and higher education.

In Bulgaria, the Ministry of Education and Science and NAVET coordinate vocational education and training, but no specific body currently oversees micro-credentials. Latvia relies on the State Education Quality Service for accreditation of vocational education programs, which are connected to the Sectoral Qualifications Framework and adhere to quality standards such as EQAVET. In fact, no accrediting bodies in Latvia currently award micro-credentials. Ireland's accreditation is managed by Quality and Qualifications Ireland (QQI), with a slow validation process for programs. Sweden assigns responsibility for VET issues to its National Agencies for Education and for Higher Vocational Education, requiring consultation with them for program accreditation.

In North Macedonia, upcoming legislative updates will clarify the Ministry of Education and Science's role in accreditation. In Spain, agencies such as ANECA, SEPE and INCUAL, along with regional authorities, oversee accreditation across higher education, vocational training and lifelong

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learning. Their processes involve aligning training with labor market needs, engaging industry collaboration and conducting pilot tests to refine programs before accreditation.

Despite national differences, all systems emphasize quality assurance, relevance and compliance with frameworks like the EQF.

2.2. Challenges in accreditation

Bulgaria

The main challenges at the national level are related to the lack of clarity as to which institution will be responsible for quality assurance and monitoring of the issued micro-credentials. Digital platforms are being used in training in the country and we believe that the platform created under the project will be used for its intended purpose.

The learning outcomes developed under the project will be proposed for adaptation when updating the state educational standards for acquiring qualifications in the construction sector.

The learning outcomes related to the topics of principles and dimensions of sustainable development, impact of human activities on the environment, climate change and pollution and sustainable use of natural resources will be used in the development of units of learning outcomes for general and sectoral training. The learning outcomes related to the topics of inclusive design, visual, acoustic and thermal comfort, air quality, life cycle global warming potential, material usage and waste, biological diversity, life cycle costs, exposure to future risks will be used in the development of units of learning outcomes for specific vocational training.

Latvia

The procedure for VET program development and its licensing has a strict framework (see the description in 2.1; 2.3).

Ireland

As above, the validation process with QQI is very slow and can be complicated. The panel of experts must be satisfied that there is a genuine need and demand for the programmes, and that the qualifications are fit for purpose.

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LOETB can create digital badges on its virtual learning environment (VLE) Moodle which will recognise completion of the training programmes. This is less complicated and can be quite effective as successful completers can publish their digital badges on their LinkedIn profiles etc.

Sweden

To get it accepted and spread both among educators and companies.

It can be a long process to get an education accepted within the public education system. This applies both to the civil servant level and to the political level.

We have no experience of accrediting similar programs at the national level.

North Macedonia

No experience till now with accrediting similar programmes.

Spain

- Lack of Microcredential Standards: Spain is still developing a unified framework for microcredentials. The absence of clear national guidelines complicates alignment with regulatory bodies like ANECA and INCUAL.
- Integration with MECU: Ensuring that the training aligns with the Marco Español de Cualificaciones (MECU) and fits into existing qualification pathways requires substantial coordination with national and regional authorities.

Accrediting online platforms and training programs, particularly for innovative subjects like green skills, presents several challenges:

1. Regulatory gaps: the absence of specific guidelines for accrediting online or micro-credential-based training can delay the process.
2. Bureaucratic complexity: accreditation often involves navigating multiple layers of regional and national regulations, which can slow progress.
3. Digital readiness: limited digital infrastructure and familiarity with online education in some regions could pose challenges.

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Spain's experience with Erasmus+ programs has shown that establishing clear frameworks and maintaining active dialogue with stakeholders can help to overcome these hurdles.

Summary for all countries:

The accreditation of training programs, particularly for micro-credentials, faces several challenges across the countries examined. In Bulgaria, uncertainty about which institution will oversee micro-credentials and ensure quality assurance presents a significant obstacle. Efforts to integrate project-developed learning outcomes into updated state educational standards are ongoing. Latvia struggles with rigid frameworks for VET program development and licensing, which can be restrictive. In Ireland, the slow and complex QQI validation process poses a barrier, although digital badges on platforms like Moodle offer an alternative way for recognizing training completion. Sweden faces lengthy processes to gain acceptance for programs within the public education system, with limited national experience in accrediting similar initiatives. North Macedonia also lacks experience with accrediting such programs. Spain opposes the lack of national standards for micro-credentials, bureaucratic complexities and challenges in integrating training programs into its qualification framework. Accreditation of online and innovative training, such as green skills programs, is further blocked by regulatory gaps and regional disparities in digital readiness.

Addressing these challenges requires clearer frameworks, smooth procedures and active stakeholder engagement to ensure alignment with labor market needs and national education policies.

2.3. Steps for accreditation

Bulgaria

The curricula are created based on the units of learning outcomes specified in the state educational standards for acquiring qualifications in professions. The development of the State educational standards for acquiring qualifications in professions is coordinated by NAVET.

There is no regulation for issuing, recognizing and upgrading micro-credentials for green skills. However, the results created under the project can find practical application even after the piloting stage.

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Latvia

The base for VET program development for licensing and further accreditation are the following documents: National Vocational Education Standard, Occupational Standard, Methodological guidance for the development of modular vocational education programs. The initial evaluation of the draft program with respect to its quality and compliance with legislation is provided by the National Centre for Education, VET Curriculum Department. If the National Centre for Education assessment has been positive, the draft program must be approved by the founder of the VET institution (in most cases it is MoES), and after that it can be submitted to the Licensing and Registers' Department of the State Education Quality Service for a license. As mentioned in 2.1 professional development programmes (159 hours or less) are not a subject of accreditation. The implementer of the program should align it with local government. Public institutions can implement professional development programs in accordance with the institution's regulations.

Ireland

QQI:

Complete significant validation application, and provide a programme descriptor that outlines Minimum Intended Programme Learning Outcomes (MIPLO) and Minimum Intended Module Learning Outcomes (MIMLOs), indicative content and sample assessments. Submit to QQI. Panel will be created within 3 months. Panel will consider application and may request further information or seek an online meeting for clarification. Panel then provides a report with conditions and recommendations which we will need to implement before final approval.

Digital Badge through VLE Moodle:

Develop learning outcomes, possibly divided into units. Ensure content is appropriate for online delivery, create synchronous/asynchronous content, create quizzes/assessments. Once learner has completed programme, grant digital badge.

Sweden

The first step is to present the project's structure to the government agencies. It is not possible to say anything about how long a process can take for approval.

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Key stakeholders are the heads of government agencies within each agency.

North Macedonia

No experience till now to accredit the developed training programmes for green skills and micro-credentials.

Spain

• Align Learning Outcomes (Months 1-2): Map program outcomes to the MECU and EQF, ensuring consistency with national standards. Engage INCUAL and SEPE.

• Engage Accreditation Bodies (Months 2-3): Collaborate with ANECA for quality assurance and SEPE for vocational training validation.

• Quality Assurance (Months 3-4): Develop evaluation tools, assessment criteria, and tracking systems aligned with regulatory requirements.

• Preliminary Review (Month 5): Submit draft programs to accrediting bodies for feedback and refine accordingly.

• Pilot Testing (Months 6-8): Conduct pilots, gather participant feedback, and adjust the programs for final approval.

• Final Submission (Months 9-10): Present final documentation, including quality assurance evidence, to ANECA and SEPE.

• Certification and Launch (Month 11): Secure accreditation, issue certificates for pilot participants, and prepare for full rollout.

Key steps for accrediting the developed programs include:

1. Initial consultation: engage all relevant stakeholders, including education authorities and industry representatives, to define the scope and requirements. These stakeholders include:

- ANECA (Agencia Nacional de Evaluación de la Calidad y Acreditación): responsible for accrediting educational programs in Spain.
- SEPE (Servicio Público de Empleo Estatal): ensures alignment with vocational and employment training needs.

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- Regional education authorities: oversee regional vocational training and education policies.
- Chambers of commerce: such as CCI Valencia, which can provide industry insights and promote program adoption.
- Industry associations: to validate the relevance of training programs to current labor market demands.
- Educational institutions: vocational training centers and universities for pedagogical alignment.

2. Framework development: create a standardized framework for assessing program outcomes and competencies.

- Mapping to frameworks: align training content and outcomes with MEC (Marco Español de Cualificaciones) and EQF descriptors.
- Preparation of accreditation dossiers: develop comprehensive documentation detailing program structure, learning outcomes, and assessment mechanisms.
- Validation by industry: obtain endorsements from industry partners to enhance credibility.

3. Submission and review: submit the programs to regional or national accreditation bodies for review and approval.

- Submit the program to ANECA or regional accrediting bodies for review.
- Incorporate feedback from accreditation agencies and stakeholders.

4. Continuous monitoring: establish mechanisms for ongoing evaluation to ensure quality and relevance.

- Conduct pilot programs to gather data on effectiveness and learner outcomes.
- Resubmit revised programs if required.
- Obtain formal approval and integrate the program into the national system.

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Summary for all countries:

In Bulgaria, the accreditation process is connected to State educational standards coordinated by NAVET, but there is no existing regulation for micro-credentials, leaving space for practical application of project results. In Latvia, the accreditation follows a strict framework based on national standards, with shorter professional development programs exempt from formal accreditation but requiring alignment with local government. In Ireland, the QQI validation process is lengthy and complex, while digital badges through Moodle offer a faster and simpler alternative for recognizing program completion. Sweden's accreditation process involves presenting the project to government agencies, but timelines and specific procedures are unclear. North Macedonia has no established experience or procedures for accrediting training programs or micro-credentials related to green skills. Spain follows a structured process involving alignment with national frameworks, collaboration with stakeholders, pilot testing, and formal submissions, though the process can be bureaucratically challenging.

3. Industry and employer involvement

3.1. Employer recognition

Bulgaria

Businesses prefer short-term training that leads to the necessary skills for a specific job. Green skills are becoming increasingly sought after by the labor market, including in the construction sector.

According to NAVET data, over the past 5 years, over 60,000 people have been trained in courses on a part of a profession, which are flexible learning forms.

Employers participate as applicants for training, in the development of training documentation and in the testing process.

Latvia

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Employers are involved in the process of development of Occupational standards and Professional qualification requirements. They are also involved in the expertise of VET programs and materials for qualification exams, as well as they are the assessors during the process of qualification examination.

The Employers' Confederation of Latvia as a Project partner has already prepared detailed analysis of the formulations of green skills in the descriptions of professional qualification requirements for professions in the construction, energy and water management sectors "Overview of the requirements for green skills in construction, energy and environmental protection (EQF levels 4 and 5) in professional qualification requirements descriptions".

Ireland

For QQI application, it is very important that validation application has evidence of employer/industry input and support for the programme. There will be an industry expert on the panel.

Sweden

They participate in the form of industry validations and support training initiatives in areas such as green skills.

Companies and industry organisations can participate in reference group work and thus adopt the approach used in the project.

North Macedonia

No experience till now to involve the employers in the validation and recognition of micro-credentials and green skills in our country.

Spain

In Spain, employers increasingly value microcredentials, particularly in green sectors like renewable energy and construction, but recognition remains inconsistent due to a lack of standardization. They collaborate with training providers, influence curricula, and offer feedback on skills gaps, though broader acceptance is limited.

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To integrate employers into the project's accreditation:

1. Co-Design Programs: Align training with industry needs through employer input.
2. Validation: Use feedback from workplace pilots to ensure practical relevance.
3. Advisory Role: Involve employers in reviewing and endorsing content.
4. Advocacy: Promote employer recognition of accredited microcredentials.

Active employer involvement ensures the project meets labor market demands and enhances credential credibility.

Employers are increasingly involved in the validation and recognition of skills through partnerships with training providers and chambers of commerce. Collaboration can be strengthened by:

1. Co-designing curricula: including employers in the development of training content to ensure it meets labor market needs.
2. Validation panels: creating employer-led panels to assess the practical relevance of micro-credentials.
3. Promotion campaigns: raising awareness of the benefits of micro-credentials among employers

Summary for all countries:

Across the analyzed countries, employer engagement in skills development and training varies significantly, reflecting differing levels of maturity in aligning education with labor market needs. In countries like Bulgaria, Latvia, Ireland and Sweden, employers play an active role in shaping training programs, contributing to curriculum design, and validating qualifications, with a growing emphasis on green skills. Latvia and Sweden show particular progress in integrating green skills into workforce development, while Ireland demonstrates strong collaboration with industry experts in qualification validation. Conversely, North Macedonia faces challenges in involving employers in the validation and recognition of micro-credentials and green skills, highlighting a need for capacity building and structured collaboration mechanisms. In Spain, although micro-credentials in green sectors are gaining recognition, inconsistencies in standardization and formal recognition suggest that further alignment with employer needs is necessary.

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Overall, while some of the countries exhibit advanced practices in employer participation and green skills integration, others need to enhance their frameworks for collaboration, especially in emerging areas like micro-credentials and sustainability-focused training.

3.2. Work-based learning and skills validation

Bulgaria

Internships are more popular in the school system than in the adult education system. There is a regulation for practical training through a special regulation of the Minister of Education and Science. This document was updated in 2024.

Professional knowledge, skills and competences are validated by inclusion in a validation procedure in a licensed CVT, which holds a license to conduct and certify vocational training in your chosen profession. The possibility of validating professional knowledge, skills and competences is regulated in Regulation No. 2 of November 13, 2014 on the terms and conditions for validating professional knowledge, skills and competences.

Latvia

The legal framework for organizing and implementing work-based learning (hereinafter referred to as WBL) is the responsibility of the Ministry of Education and Science. The Ministry has developed guidelines for the implementation of WBL to promote a unified understanding and approach among stakeholders and to provide practical support. WBL is implemented in close collaboration with social partners, sectoral expert councils, employers, the National Centre for Education responsible for standards, and the State Education Quality Service overseeing program licensing, accreditation, and data collection on WBL students. Additionally, professional education institutions offering WBL in specified programs/qualifications are involved.

The Amendments to Vocational Education Law adopted in 2022, define the concept of WBL. According to the legislation, WBL is a component of a full-time education process in which the learning outcomes specified for the educational programme are achieved, in accordance with the education plan, alternately at the educational institution and with the employer. Work-based learning can include traineeship.

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Work-Based Learning involves at least 25 percent of the total educational program volume being acquired within the company. All changes to the educational program must be agreed with the State Education Quality Service - the body responsible for licensing the programmes and accreditation of VET institutions.

Companies can organize not only professional content practice but also theory within their premises.

A VET school has the overall responsibility for the implementation of the WBL program. A tripartite agreement – school, student and company – has to be concluded. Additional bi-lateral agreement is concluded between the student and the company – on wage in case of job contract, or agreement on the allowance. Apart from the wage/ allowance also the individual labour protection means and the civil liability insurance of the learner are ensured in accordance with the training contract. A training plan is agreed between the school, the employer and the apprentice.

Ireland

On some programmes, we require learners to complete work placements and the workplace supervisor may or may not have a role in assessing their skills while on the job. Our preference though is to assess workplace skills in a simulated work environment to ensure consistency.

Sweden

It can be a next step in a micro-credentials-based learning path. Work-based learning is a compulsory part of Swedish vocational education and training in upper secondary and adult education. It counts as part of the education and is thereby recognized by the education system.

North Macedonia

Internships and apprenticeships are modles in our country for accrediting work-based learning.

Spain

In Spain, work-based learning (WBL), such as internships and apprenticeships, is integrated into training through frameworks like Dual Vocational Training and Recognition of Prior Learning (RPL). These allow practical skills to be validated within the National Qualifications Framework (MECU).

To incorporate WBL:

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1. Pair Learning with Practice: Combine theoretical training with internships in green sectors like renewable energy.
2. Workplace Assessment: Validate skills through employer evaluations and task documentation.
3. Standardized Models: Use sectoral agreements and RPL to formalize work-based skills.

Frameworks such as *Formación Profesional Dual* integrate apprenticeships and internships into vocational training. This approach can be extended to green skills programs by:

1. Partnerships with employers: collaborate with industry to provide hands-on learning opportunities.
2. Digital tracking tools: utilize platforms to document and validate competencies acquired through work-based learning.

Summary for all countries:

Across the analyzed countries, work-based learning (WBL) plays a significant role in connecting education systems with labor market needs, though its implementation and regulation vary.

In Bulgaria, work-based learning (WBL) is more common in the school system than in adult education, with internships regulated by the Ministry of Education and Science. Professional skills and competences can be validated through licensed vocational training centers under specific regulations. In Latvia, WBL is defined and supported by a legal framework, requiring at least 25% of education programs to occur within companies. The process involves collaboration between schools, employers, and students through tripartite agreements and training plans. In Ireland, workplace skills are sometimes assessed during work placements, but simulated environments are preferred for consistency. Sweden incorporates WBL as a mandatory component of vocational education, recognizing it as part of the formal education system. North Macedonia uses internships and apprenticeships as the primary models for accrediting WBL. In Spain, WBL, including apprenticeships and internships, is formalized through frameworks like Dual Vocational Training and Recognition of Prior Learning, with skills validated through employer assessments and integrated into NQF.

Overall, while WBL is a recognized priority across all countries, the level of formalization, employer involvement and alignment with qualification frameworks varies, with some countries demonstrating advanced practices and others needing greater structural and regulatory development.

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4. Quality assurance and standards for accreditation

4.1. Quality assurance mechanisms

Bulgaria

The Vocational Education and Training Act is the main normative act that regulates vocational education and training and in particular quality assurance in VET provision. Vocational training centres ensure the quality of vocational training by establishing an internal quality assurance system in compliance with the state educational requirements for the acquisition of qualifications in professions and the legislation in force. The establishment of an internal quality assurance system is mandatory for VET Centres. Pursuant to Article 22 of the VET Act, VET centres are obliged to submit to the NAVET, by 31 January of each calendar year, information on the activities carried out in the previous calendar year and an annual quality self-assessment report. The lack of regulation for micro-credentials does not allow to define a specific quality assurance mechanism different from the one used for other trainings. Adherence to the guidelines of the Council Recommendation for micro-credentials within project activities can ensure quality outputs - green skills training that includes the issuance of micro-credentials.

Latvia

Accreditation is the evaluation of the performance of the relevant education provider and/or the quality of implementation of the education programme. As a result of accreditation, an education provider obtains a right to issue a State recognised qualification for a particular programme. During the accreditation process, the quality of the implementation of an education programme is evaluated against criteria aligned to EQAVET. The period of accreditation depends on the results of the evaluation. It may be for two to six years. In case of complete non-compliance with the EQAVET criteria, the educational institution does not receive accreditation and is no longer authorised to carry out its activities

Short programs (159 hours and less) are evaluated during the alignment and implementation process carried out by the local government.

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Ireland

Teaching and Learning Strategy

Clear supports available for learner

Clear Assessment Strategy

Sweden

To get approval from the relevant authorities to create credability and validity for the training.

Most programs are monitored by government agencies or through accredited companies or organizations.

North Macedonia

After adoption of the main legislation, we will expect this questions to be subject of clarification within the secondary(by-laws) legislation.

Spain

To ensure credibility, GreenMICRED Pathways programs require quality assurance aligned with Spain's MECU and EQF. Key processes include:

1. Standards Alignment: Map learning outcomes to national and European frameworks.
2. Transparent Assessments: Use standardized tools to validate skills.
3. Stakeholder Input: Involve employers and regulators for relevance.
4. Platform Validation: Ensure secure data and learner authentication.
5. Continuous Improvement: Collect feedback to refine programs.

In Spain, agencies like ANECA and SEPE monitor accredited programs through audits, reports, and external reviews, ensuring compliance with quality standards and labor market needs.

Quality assurance is critical for maintaining program credibility. Mechanisms include:

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- Regular reviews: conduct periodic evaluations to ensure alignment with industry needs and national frameworks.
- Stakeholder feedback: use input from employers, learners, and trainers to refine programs.

Accredited programs are monitored through inspections and reporting requirements established by agencies like ANECA and regional bodies

Summary for all countries:

In Bulgaria, quality assurance in vocational education and training is governed by the Vocational Education and Training Act, requiring VET centers to establish internal quality systems and report annually to NAVET. Although micro-credentials lack specific regulations, adherence to EU guidelines can ensure high-quality outcomes. In Latvia, accreditation evaluates education providers and programs against EQAVET criteria, granting authorization to issue state-recognized qualifications for up to six years, depending on compliance levels. Short programs are assessed locally during implementation. In Ireland, quality assurance involves clear strategies for teaching, learning and assessment to support learners effectively. In Sweden, government agencies or accredited organizations monitor most programs to ensure validity and credibility. North Macedonia anticipates addressing quality assurance mechanisms for micro-credentials through forthcoming secondary legislation. In Spain, quality assurance for GreenMICRED Pathways programs is aligned with MECU and EQF, using standardized assessments, stakeholder input and platform validation.

4.2. Validation and assessment standards

Bulgaria

There is still no specific normative document in the country indicating what standards should be applied for the issuance of micro-credentials. The project experience is a valuable starting point towards the introduction of such standards. The very fact that the topic of the short course is topical and relevant and there is not a large supply of such trainings, leads us to believe that there will be serious interest. As far as the evaluation model is concerned, it is laid down at the end by means of a final test.

Latvia

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As part of the ESF project „Sectoral Qualifications System Improvement for VET Development and Quality Assurance“ (2016-2022), the content for centralized qualification exams for 210 qualifications was developed, along with assessment samples for individual modules within each modular program.

Currently, the National Centre for Education is continuing this work by developing a unified system for assessing skills and competences gained in the program modules under the ESF project „Individualisation and Inter-Sectoral Cooperation for VET Excellence“ (2024-2029).

Ireland

We would need a clear Assessment strategy to ensure that learners on the training programme are assessed fairly and consistently. Our learners are generally assessed through any combination of Exams, Skills Demonstrations, Learner Record, Assignments and Projects.

Sweden

What is required is an acceptance of skills and competencies by the industries and that there is a legitimacy regarding the training provider as well as a transparency of content and process.

There are no common standardized models used within our region. At the state level, the Swedish National Agency for Higher Vocational Education is responsible for the development of validation.

North Macedonia

No information about assessment and validation standards that should be applied to ensure that the competencies and skills taught in the training programs are recognized

Spain

Key Standards

1. Outcome-Based Assessment: Evaluate defined competencies through practical tasks and portfolios.

2. Transparent Criteria: Use standardized rubrics for objective grading.

3. Verification: Validate assessment authenticity, especially for online and work-based learning.

Standardized Models in Spain

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- Recognition of Prior Learning (RPL): Validates non-formal and informal learning.
- Dual Vocational Training: Combines theoretical and workplace assessments.
- ANECA Quality Framework: Ensures rigorous evaluation standards.

Competency-based assessment models and digital badging systems are recommended. Spain can leverage existing systems, such as those under SEPE, to ensure standardization and widespread recognition.

Summary for all countries:

In Bulgaria, no specific standards exist for issuing micro-credentials, but project experiences offer a basis for future development. Latvia has developed centralized qualification exams and assessment models through ESF projects, aiming for unified skill and competence evaluation in modular programs. In Ireland, assessment strategies emphasize fairness and consistency, using exams, demonstrations, records, assignments, and projects. Sweden prioritizes industry acceptance of skills and transparency in training processes, with validation efforts overseen by the Swedish National Agency for Higher Vocational Education. North Macedonia lacks established standards for assessment and validation of competencies. Spain employs outcome-based assessments, transparent criteria and verification measures, utilizing frameworks like Recognition of Prior Learning, Dual Vocational Training and ANECA's quality standards for recognized evaluation.

5. Future integration and sustainability

5.1. Sustainability of results

Bulgaria

In the absence of current regulation on micro-credentials in the country, the integration of the project results can be done through a proposal to NAVET for inclusion of the developed curriculum content in the state educational standards for the acquisition of qualifications in the professions in the construction sector. At the time of project implementation there is a deficit of green learning content in the learning documentation and the same is planned to be updated in 2025. Free access to a digital platform with specific opportunities to learn green vocational competences is a very good opportunity to upgrade the skills of individuals seeking employment in the construction sector.

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Latvia

The developed program can be implemented separately or may be integrated into the existing IVET and CVET programs for related professions, such as Building Construction Technician (level 4 EQF/LQF), Architectural Technician (level 4 EQF/LQF), Hydro-Construction Technician (level 4 EQF/LQF), Construction Technician for Hydro technical Structures (level 4 EQF/LQF), Roofer (level 4 EQF/LQF), Carpenter (level 4 EQF/LQF), Building Technician (level 4 EQF/LQF), Dry Building Technician (level 4 EQF/LQF), Building Construction Manager (level 5 EQF/LQF), and others. The first two general learning outcomes can be incorporated into all existing licensed and accredited programs.

Ireland

Employer / industry involvement is key to ensuring that the programme is relevant and remains relevant. LOETB operate programme boards to periodically review programme content to ensure its relevance and appropriateness. Learners and employers feedback is also sought to ensure that the programme is fit for purpose.

Sweden

The most important thing is to create an awareness of the education and also an acceptance of it in relevant industries. Through this, a demand is created and thus a long-term perspective in the system. The Swedish National Agency for Higher Vocational Education and our regions are working on the implementation of validation and supplementary education. They can support this type of shorter training if they see it to build skills for further education

North Macedonia

No experience.

Spain

To ensure the sustainability of the GreenMICRED Pathways results in Spain, the training programs and microcredentials must be integrated into the Marco Español de Cualificaciones (MECU) and the

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National Catalogue of Professional Qualifications (CNCP). This formalization would secure their inclusion in vocational training and lifelong learning pathways.

Collaboration with vocational training centers, universities, and public employment services (SEPE) is key to embedding the programs into existing curricula. Engaging employers, industry associations, and accreditation bodies such as ANECA will strengthen their labor market relevance and recognition.

National policies like the Plan de Modernización de la Formación Profesional and the Just Transition Strategy can provide support, alongside European funding such as Erasmus+ and the Next Generation EU funds. Active communication and continuous evaluation will ensure the programs remain aligned with labor market needs and green transition goals.

Long-term sustainability can be achieved through:

1. Policy integration: embed programs into regional and national strategies for workforce development.
2. Funding mechanisms: secure support from initiatives like Next Generation EU and public-private partnerships.
3. Stakeholder engagement: maintain active collaboration among educational institutions, industry, and government

Summary for all countries:

In Bulgaria, sustainability depends on integrating the project's green learning content into State educational standards, addressing a deficit in current vocational training. Latvia aims to incorporate its program into existing IVET and CVET programs, ensuring alignment with various construction-related professions. Ireland emphasizes continuous employer involvement and feedback to maintain program relevance, supported by regular reviews. Sweden focuses on fostering industry acceptance and demand, with support from the Swedish National Agency for Higher Vocational Education for validation and supplementary education. North Macedonia lacks experience in this area. Spain plans to formalize its programs, using collaborations with educational institutions, industry and public employment services while securing funding from national and European initiatives to align with green transition goals.

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5.2. Lifelong learning and micro-credentials

Bulgaria

In Bulgaria, adult participation in learning activities is at a very low level, below 2% in 2021, and the target for the period 2014-2020 of 5% cannot be reached. The country ranks second to last in the region, with only Romania performing worse. Most adults participate in training in licensed vocational education and training centres rather than vocational schools. In both centres (54.2%) and VET schools (32.9%), the highest proportion of participants in vocational training is aged 40 and over.

The lifelong learning policy agenda includes a number of objectives for the acquisition of new skills and retraining of adults throughout their working career. The implementation of micro-credentials has a direct link to the European Commission's objectives of increasing economic competitiveness as well as improving the employability of European citizens. A number of policy documents point to micro-credentials as an appropriate solution for skills development for adult employed and unemployed people.

In order to meet the needs of all stakeholders (employers, training institutions, public authorities, trade unions and the learners themselves), good coordination and broad public support are needed.

Micro-credentials are an important part of efforts to promote lifelong learning in the country.

Latvia

The Micro-credentialing system is under development in Latvia. Currently HE institutions are actively engaged in implementing micro – credentials whereas IVET institutions are exploring opportunities through Erasmus+ projects. Here are two examples from HE.

The implementation of micro-credentials is one of the activities in the Recovery and Resilience Mechanism project "Internal and External Consolidation of the University of Latvia", carried out by the University of Latvia and the BA School of Business and Finance. The first trial of micro-credentials takes place with a modern training course that has been developed and recently approved in the study process, as part of the EU Recovery and Resilience Mechanism Plan investment "Ensuring the Acquisition of High-Level Digital Skills," funded under project "Acquisition of High-Level Digital Skills in Latvia in the Field of High-Performance Computing Technologies."

Vidzeme University of Applied Sciences, as a partner institution in the European University Alliance E3UDRES2 (eudres.eu), is working on creating a unified framework for the micro-qualification

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offerings within this alliance. As a result, this education model, already successfully adapted in many parts of Europe, will also be implemented in Latvia. The pilot project will involve business schools, national universities of applied sciences, arts and culture universities, colleges founded by public and state universities, as well as other partners. The deadline for the pilot project is set for 2027.

Ireland

In Ireland, we operate a Skills to Advance programme which provides training in form of short courses and microcredentials to people that are already in employment. This initiative aims to help those in employment to progress in their roles and provide formal training that these employees would not otherwise have the opportunity to engage in. It is supported by the employer, and is often sought by the employer – so we create bespoke programmes to meet specific employer needs - and is heavily funded by the ETB.

Sweden

The Swedish National Agency for Higher Vocational Education and our regions are working on the implementation of validation and supplementary education. They can support this type of shorter training if they see it to build skills for further education.

The work to integrate micro-credentialing systems is not developed in the public education system, but it does exist in industry education in our region.

North Macedonia

No experience.

Spain

Flexibility and Accessibility: Microcredentials provide short, modular learning opportunities, making education more accessible to working professionals and those with time constraints.

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• Alignment with National Frameworks: Integrating microcredentials into the Marco Español de Cualificaciones (MECU) ensures their recognition within formal education pathways, allowing learners to stack credentials toward larger qualifications.

• Industry Collaboration: Partnering with employers ensures that microcredentials target in-demand skills, enhancing their relevance and acceptance in the job market.

• Digital Platforms: Online delivery allows learners to access education anywhere, supporting non-traditional students and rural populations.

Spain supports lifelong learning through initiatives like *Aula Mentor* and *Formación Profesional*. Micro-credentials can enhance these efforts by providing flexible and modular learning pathways. Successful pilots, such as those in energy efficiency training, offer scalable models for future programs.

Summary for all countries:

In Bulgaria, lifelong learning participation is low, with micro-credentials seen as a key tool to address skill gaps and align with European goals. Coordination among stakeholders is crucial for effective implementation. Latvia is developing its micro-credential system, with HE institutions leading through pilot projects, aiming for broader adoption by 2027. Ireland supports lifelong learning through its Skills to Advance program, offering employer-driven micro-credentials tailored to workforce needs. In Sweden, micro-credentials are more established in industry education than in public systems, with regional and national efforts focused on validation and supplementary learning. North Macedonia has no current experience in this area. Spain uses micro-credentials to enhance lifelong learning initiatives, integrating them into national frameworks, with industry collaboration and digital platforms ensuring flexibility and relevance. Successful pilots in Spain demonstrate the ability to be expanded for future adoption.

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Conclusion

The Accreditation Strategy Guide emphasizes the growing importance of integrating green skills, lifelong learning and micro-credentials into VET systems across participating countries. It highlights some conclusions which underscore the need for collaborative frameworks, stakeholder involvement and the alignment of training programs with labor market demands and sustainability goals. By addressing these areas, countries can enhance the relevance, quality and accessibility of VET, ensuring that learners are equipped for the evolving demands of the green economy and the broader job market.

In the majority of the countries mentioned, there is a noticeable shift towards green skills, especially in sectors such as construction, energy and environmental protection. There is a clear recognition of the need for specialized training in green competencies, both in the formal education system and through adult education and training programs. However, many countries are still in the process of formalizing the regulatory frameworks and establishing guidelines for micro-credentials.

To move forward with the development and issuance of micro-credentials for green skills for adults, countries should make some efforts that will support their sustainability and recognition, ensuring that adult learners are equipped with the competencies needed to drive the green transition in their respective countries.

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Green MiCred Pathways' platform

What is the 'Green MiCred Pathways' platform?

A virtual learning environment with short courses, assessment tools, learning materials and information. The training courses are designed in the platform based on an online micro-learning methodology, allowing the learner to consume the course contents in small pieces and decide how, when and where to do it.

The Green MiCred Pathways' platform's vision is to empower accreditation bodies to define micro-credential specifications. This will enable accredited educational institutions and organizations to create learning opportunities aligned with these specifications, providing guidance on curriculum and assessment. Companies can also leverage these specifications to offer micro-credentialing opportunities. The ultimate goal is to facilitate growth in education and employment through a trusted network of micro-credentials.

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To encourage employer adoption, we suggest a transitional phase where conventional job-seeking methods are used alongside specification documents. These documents would detail how a candidate's qualifications align with micro-credentials, allowing employers to familiarize themselves with this approach before any formal regulations are implemented. Our platform facilitates this transition by enabling opportunities to be defined by specifications that outline the required skills and the skills that will be acquired.

Reaching adoption of micro-credentials will take time. However, it's crucial that we take the initial steps towards establishing a framework that leverages the benefits of micro-credentials for all stakeholders.

While the platform's full potential depends on wider blockchain adoption, we've laid the groundwork for this future. Meanwhile, platform acceptance will be managed manually.

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