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Recommendations for EU action on green and circular economy skills portability

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Skills portability for green and circular transitions

Joint consultation response to the European Commission

This document presents the joint position of the MASTERY project consortium and other contributing organisations on the European Commission's Skills Portability Initiative. It draws on a survey of practitioners from across the EU working in green and circular economy skills, including Vocational Education and Training (VET) providers, higher education institutions, public authorities and industry associations.

The green and circular economy is creating new jobs and transforming existing ones across construction, waste management, renewable energy transition, manufacturing, and digital services. Workers are increasingly acquiring these skills through workplace experience, short training programmes, and non-formal upskilling pathways rather than through formal education alone. Yet when they move across borders or change sectors, they often cannot prove what they know.

This is not only a problem for education and training systems. It directly affects:

Companies struggling to recruit and retain workers with verified circular economy competences, slowing down the adoption of sustainable business models.

Public authorities implementing EU environmental legislation that requires new professional profiles, from circular procurement to waste prevention planning.

Regions and cities trying to attract investment in green industries without a workforce that can demonstrate the right skills across borders.

The EU already has the policy architecture to address this: the European Qualifications Framework, Europass, ESCO, the 2012 Recommendation on validation of non-formal and informal learning, and the 2022 Council Recommendation on micro-credentials. What is missing is not new frameworks, but sector-specific implementation that reaches the people and industries where green and circular economy skills are actually being developed.

Key messages from practitioners

Work-based skills are the main portability gap. Documenting work experience is the single most reported difficulty. Green and circular economy competences are increasingly acquired through hands-on work and informal upskilling, not only through formal education.

Existing EU frameworks need implementation, not new layers. The EQF, Europass, ESCO, the VNFIL Recommendation and the Micro-credentials Recommendation already provide a solid architecture. Practitioners need sector-specific implementation of these tools, particularly for green and circular skills in construction, waste management, renewable energy transition and manufacturing, not additional frameworks.

Digital tools are necessary but not sufficient. Digital credential infrastructure only works when there is underlying agreement on what credentials mean and how employers can trust them. Technology should enable recognition, not substitute for it.

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Recommendations for EU action

1	**Accelerate sector-specific implementation of the VNFIL - Validation of Non-Formal and Informal Learning framework for green and circular skills.** Fund pilots in sub-sectors like construction, waste management and circular manufacturing that build on existing national validation systems rather than creating new ones.
2	**Extend fast-track mutual recognition to green and circular skills in critical sectors.** Prioritise high-demand skill sets as early candidates for streamlined cross-border recognition, covering both formal qualifications and verified work experience.
3	**Accelerate ESCO updates for emerging green and circular job profiles.** Establish a dedicated green economy review track within ESCO governance with a shorter update cycle (12–18 months) for emerging occupational profiles.
4	**Build digital credential infrastructure on existing Europass/EDC architecture.** Fund the integration of national and sectoral credential systems with the EDC infrastructure, lower e-seal barriers for smaller providers, and avoid creating competing wallet systems.
5	**Target micro-credential acceptance through multi-stakeholder engagement.** Establish a pathway through which green and circular skills micro-credentials endorsed by recognised structures (Pact for Skills, CoVE networks, Skills Alliances) can gain cross-border recognition status.

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extended version and survey snapshot

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Recommendations for EU action on green and circular economy skills portability

Context and methodology

In January–February 2026, the MASTERY project surveyed practitioners from 14 organisations across 5 EU Member States (Belgium, Bulgaria, Greece, Italy, Spain) working on green and circular economy skills. The 14 respondents include VET providers, higher education institutions, public authorities and industry associations, and reflect the perspectives of the 7-member MASTERY consortium alongside additional contributing organisations. The survey informs our joint response to the European Commission's Skills Portability Initiative consultation (Action 1). While the sample is deliberately practitioner-focused rather than statistically representative, the consistency of findings across diverse organisation types and countries gives confidence in the following recommendations.

The five recommendations that follow share a common logic: they work within and strengthen existing EU frameworks rather than proposing new parallel structures. Our respondents consistently told us that the current EU architecture, the EQF, Europass, ESCO, the VNFIL Recommendation, the Micro-credentials Recommendation, is adequate in design but under-implemented in practice. This is particularly true for emerging green and circular economy competences, where the pace of labour market change outstrips the speed of institutional adaptation. The recommendations are designed to close this implementation gap.

Accelerate sector-specific implementation of the VNFIL framework for green and circular skills

Documenting and validating skills gained through work experience remains the most difficult step in cross-border qualification processes. This is not a gap in EU policy architecture — the 2012 Council Recommendation on Validation of Non-Formal and Informal Learning already provides the framework. The gap is implementation: validation systems remain fragmented across Member States, unevenly funded, and rarely designed for the specific characteristics of green and circular economy competences, which are increasingly acquired through hands-on work, vendor-led training, and informal upskilling rather than formal education pathways.

The Skills Portability Initiative, currently under consultation and planned for adoption as part of the Fair Labour Mobility Package in 2026, offers a direct policy window to address this. The Initiative explicitly recognises that non-formal and informal learning often goes unvalidated and that digital credential systems are developing unevenly. Cedefop has framed the challenge as modernising recognition practices to reflect how people learn, including through on-the-job experience and non-traditional pathways.

Proposed measures

Within the Skills Portability Initiative, fund sector-specific VNFIL implementation pilots in green and circular economy sub-sectors such as construction, waste management, circular manufacturing, and energy. These pilots should build on existing national validation systems rather than creating new ones, following the sectoral logic already established by the Net-Zero Industry Academies for training delivery and by Centres of Vocational Excellence for cross-border skills frameworks. Eligible activities could include developing sector-specific assessment protocols for green and circular competences, training and certifying validation assessors, and testing cross-border recognition of work-based green and circular skills using micro-credential frameworks. The process should involve a broad multi-stakeholder base (social partners, VET providers, public employment services, employer associations, Centres of Vocational Excellence, Skills Alliances, and Erasmus+ project consortia working on green and circular skills

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validation) to ensure that assessment standards are grounded in real workplace practice and recognised across national systems.

Extend fast-track mutual recognition to green and circular skills in critical sectors

Workers with verified green and circular skills in sectors like construction, hazardous waste management, and energy face lengthy recognition procedures when moving across borders, even when safety and regulatory requirements are functionally equivalent between countries. This barrier directly undermines the EU's ability to mobilise the green workforce where it is most needed and was consistently identified as a priority concern by stakeholders consulted.

The existing framework for recognising professional qualifications (Directive 2005/36/EC) provides mechanisms such as Common Training Frameworks and Common Training Tests that could in principle support faster recognition. However, these tools have never been activated in practice, and most emerging green and circular economy roles do not meet the regulatory thresholds required to use them. A different approach is needed for skill sets that are evolving faster than national regulatory systems can formalise them.

The upcoming Fair Labour Mobility Package, announced for 2026, offers a concrete policy window. The Commission has already signalled a move toward a "skills first" approach that recognises demonstrable competences and verified experience alongside formal qualifications, including for unregulated and newly emerging professions. This is exactly the space where green and circular economy skills sit. A precedent for sectoral prioritisation already exists: the Net-Zero Industry Academies launched under the Net-Zero Industry Act have adopted a sector-by-sector approach, starting with batteries, solar, and hydrogen, developing targeted training content and learning credentials in each value chain. The Union of Skills communication similarly identifies the circular economy among the strategic sectors for which Skills Academies should be rolled out. Applying the same sectoral logic to cross-border recognition would be a natural extension of what the Commission is already doing on the training side.

Proposed measure

Within the Fair Labour Mobility Package and the Skills Portability Initiative, prioritise green and circular economy skill sets in high-demand sectors as early candidates for streamlined cross-border recognition. This should cover both formal qualifications and verified work experience, using micro-credential frameworks and sectoral competence standards as the basis for establishing functional equivalence. The process should involve a broad multi-stakeholder base including social partners, public employment services, VET providers, Centres of Vocational Excellence, Skills Alliances, sectoral organisations, and Erasmus+ project consortia working on green and circular skills, to identify priority skill sets and validate recognition criteria grounded in actual labour market demand.

Accelerate ESCO updates for emerging green and circular job profiles

The gap between evolving green and circular job titles and official EU classifications is widely recognised as a barrier to skills portability. Roles emerging from the circular economy, such as circular procurement specialists or ESG reporting analysts, are being created by the market but not yet captured by ESCO. This mismatch means that digital credential tools built on ESCO cannot accurately describe the skills people actually hold, undermining the very portability that micro-credentials are supposed to deliver.

This is not about creating an alternative classification. ESCO already identifies green skills through a dedicated labelling system, and the Commission has introduced AI-driven monitoring to detect emerging skills from job

advertisements and training programmes. But the update cycle remains too slow for a sector undergoing rapid regulatory and technological change. Fragmented waste classification systems and competing sustainability certification schemes are concrete examples where ESCO lags behind labour market reality.

Proposed measure

Establish a dedicated green and circular economy review track within the ESCO governance, with a shorter cycle (12 to 18 months) specifically for green skills labelling and emerging occupational profiles. A standing green economy sub-group within the ESCO Member States Working Group could be tasked with reviewing skills flagged by the AI monitoring system and fast-tracking their validation. This process should draw on a broad multi-stakeholder base, including green and circular sector employer associations, Centres of Vocational Excellence, Skills Alliances, Knowledge Alliances, and Erasmus+ project consortia working on green and circular skills and micro-credentials. Interim profiles should be made available on the Europass platform while the formal classification catches up.

Build digital credential infrastructure on existing Europass/EDC architecture

Digital wallets and unified credential profiles are widely supported as tools for cross-border skills visibility. However, digital infrastructure is only useful when the underlying recognition and validation issues are resolved. A digital wallet displaying a credential that employers cannot interpret or trust does not solve the portability problem.

The European Digital Credentials for Learning (EDC) infrastructure, including the European Learning Model and the Europass wallet, already provides the technical foundation. The infrastructure is freely available, open-source, and designed to handle credentials from formal, non-formal, and informal learning contexts alike. Recent EU large-scale pilots on digital credential exchange have confirmed that the system works in practice, significantly reducing cross-border verification times and demonstrating interoperability across multiple Member States.

Adoption and integration remain the central challenge, particularly among smaller providers. Three practical barriers persist. First, issuing EDC-compliant credentials requires an eIDAS-compliant electronic seal, which involves procurement from a Qualified Trust Service Provider. This creates cost and technical hurdles for smaller training providers and sectoral organisations that lack dedicated IT capacity. Second, mapping existing credentials to the European Learning Model requires technical expertise that many credential-issuing organisations do not have. Third, technical divergence across Member States means that national credential systems do not easily interoperate with the Europass format, and many green and circular skills certifications, particularly from vendor-led training or workplace-based learning, remain outside the system entirely. These barriers are compounded by a sustainability problem: technical capacity built during pilot phases tends to dissipate once project funding ends, leaving smaller organisations unable to maintain digital credential capabilities.

Proposed measure

Fund the integration of existing national and sectoral credential systems with the EDC/Europass infrastructure, with priority given to green and circular skills certifications and micro-credentials. This should include developing and maintaining open-source conversion tools that allow providers to translate existing credential formats to the European Learning Model without rebuilding their systems from scratch. Provide sustained technical guidance and funding for the full range of credential-issuing organisations: VET providers, employers and company training

programmes, sectoral organisations, public employment services, Centres of Vocational Excellence, national qualification authorities, and Erasmus+ project consortia. Lower the e-seal barrier for smaller providers through shared or subsidised access to Qualified Trust Service Provider infrastructure. Critically, avoid creating competing wallet or credential systems: the convergence between the Europass wallet and the EU Digital Identity Wallet under eIDAS 2.0 (mandated for deployment by late 2026) means that any investment should align with this single European architecture rather than building parallel infrastructure.

Target micro-credential acceptance through multi-stakeholder engagement, not additional regulation

The 2022 Council Recommendation on Micro-credentials already provides the policy framework for green and circular skills micro-credentials. And there is no shortage of activity: Pact for Skills partnerships, sector skills alliances, Centres of Vocational Excellence, and Erasmus+ project consortia across Europe are already developing, issuing, and endorsing green and circular skills micro-credentials, often with significant EU co-funding. The problem is fragmentation. A micro-credential developed through a Pact for Skills partnership in one Member State, or validated through a CoVE network, has no guaranteed recognition when the holder crosses a border. Each project produces its own credentials, competence frameworks, and endorsement processes, with no mechanism connecting these outputs to a shared portability architecture. When project funding ends, the credentials persist in isolation.

The Skills Portability Initiative offers a direct opportunity to close this gap. Its current consultation focuses heavily on formal qualifications and digital infrastructure, with much less attention to how micro-credentials from sector-led, project-based, or workplace-based training enter whatever portability framework emerges. This is where the recommendation should focus: connecting what existing structures already produce to the cross-border recognition system the SPI is building.

Proposed measure

Within the Skills Portability Initiative, establish a clear pathway through which green and circular skills micro-credentials endorsed by recognised multi-stakeholder structures (Pact for Skills partnerships, European sector skills alliances, CoVE networks, Skills Alliances) can gain cross-border recognition status. This would use these existing structures as the endorsement and quality assurance mechanism, connecting their outputs to the SPI portability architecture and the EDC/Europass digital infrastructure. Fund the consolidation and interoperability of micro-credential frameworks already developed through EU co-funded projects, so that competence profiles, assessment standards, and credential formats produced by different consortia in the same green and circular economy sectors can be aligned and made mutually recognisable. Eligible activities could include mapping existing project-level micro-credential frameworks against each other, developing shared sector-level competence standards that multiple providers can issue against, and integrating endorsed credentials into public employment service matching tools and regional skills strategies. The goal is to turn the significant investment already made in green and circular skills micro-credentials across multiple EU programmes into a connected, portable system where project results travel beyond their original boundaries.

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Glossary of acronyms, policies and EU initiatives

This glossary covers the acronyms and EU policy instruments referenced in this document.

Term	Full title / Description
Cedefop	European Centre for the Development of Vocational Training. EU agency supporting VET policy development.
Common Training Frameworks / Common Training Tests	Mechanisms under Directive 2005/36/EC to facilitate automatic recognition of professional qualifications across EU Member States. Neither has been activated to date.
CoVE	Centres of Vocational Excellence. Networks of VET providers driving innovation in skills development, supported under the Erasmus+ programme.
Directive 2005/36/EC	Directive on the Recognition of Professional Qualifications. Establishes rules for mutual recognition of professional qualifications across EU Member States.
EDC	European Digital Credentials for Learning. EU infrastructure for issuing, sharing and verifying digital credentials, including the European Learning Model and credential schema.
eIDAS / eIDAS 2.0	Electronic Identification, Authentication and Trust Services Regulation. eIDAS 2.0 (Regulation (EU) 2024/1183) mandates EU Digital Identity Wallets by late 2026.
EQF	European Qualifications Framework for Lifelong Learning. Eight-level reference framework linking countries' qualifications systems to facilitate cross-border mobility.
EQAVET	European Quality Assurance in Vocational Education and Training. Framework for quality assurance of VET systems and providers.
ESCO	European Skills, Competences, Qualifications and Occupations classification. Multilingual taxonomy linking occupations, skills, and qualifications.
EU Digital Identity Wallet (EUDI Wallet)	Personal digital wallet mandated under eIDAS 2.0 for storing and sharing identity and credential data. Planned convergence with the Europass wallet.
Europass	EU platform providing tools for skills and qualifications transparency, including the Europass wallet for storing digital credentials.
Fair Labour Mobility Package	Announced Commission initiative for 2026 to modernise labour mobility rules, including the Skills Portability Initiative.
Net-Zero Industry Act (NZIA) / Net-Zero Industry Academies	Regulation (EU) 2024/1735 establishing a framework for Net-Zero Industry Academies to deliver sector-specific training (batteries, solar, hydrogen, etc.).
NQF	National Qualifications Framework. Country-level framework referenced to the EQF.
Pact for Skills	EU initiative bringing together public and private stakeholders committed to upskilling and reskilling in key industrial ecosystems.
Skills Alliances / Sector Skills Alliances	EU-funded partnerships developing shared skills intelligence and training in specific sectors.
Skills Portability Initiative (SPI)	EU initiative under consultation (Action 1, 2026) aimed at facilitating cross-border recognition of qualifications and skills.

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Term	Full title / Description
Union of Skills	Commission communication (March 2025) setting out the strategic framework for EU skills policy, including Skills Academies for strategic sectors.
VNFIL	Validation of Non-Formal and Informal Learning. Refers to the 2012 Council Recommendation (2012/C 398/01) establishing principles for validation of learning outside formal education.
2022 Council Recommendation on Micro-credentials	Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability.

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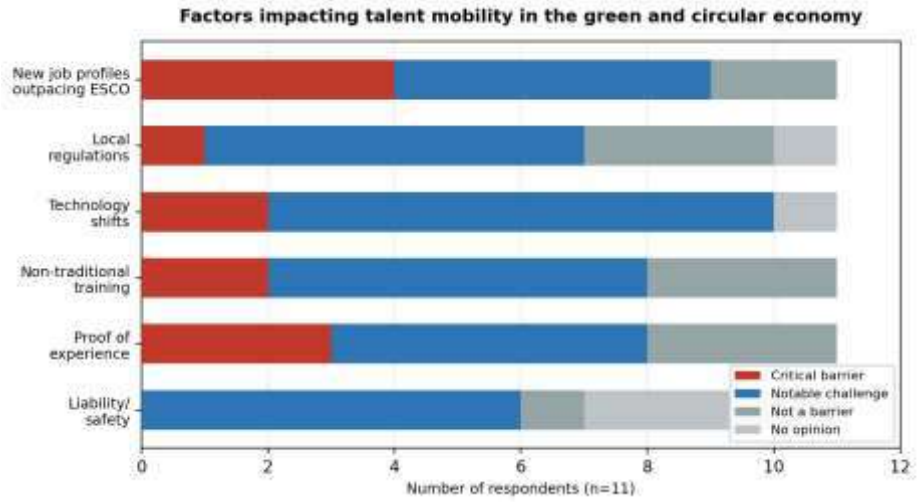
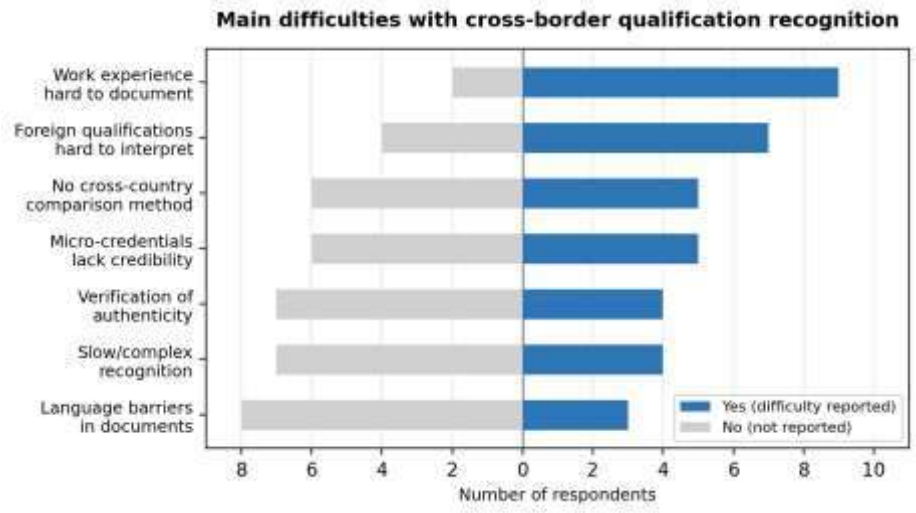
Annex - Survey snapshot

14 respondents • 14 **organisations** (including 7 MASTERY consortium partners)
5 EU countries (BE, BG, EL, ES, IT) • VET providers, higher education, public authorities, industry associations



Technology shifts are the most widely reported challenge: 91% of respondents rate them as at least a notable challenge for talent mobility. New job profiles outpacing official EU classifications (ESCO) are rated as a critical barrier by 36% of respondents, that is the highest critical barrier rate alongside proof of experience. Non-traditional training routes (vendor-led, workplace-based) are a notable or critical challenge for 73%.



Skills gained through work experience are difficult to document: this is the most reported difficulty, selected by 82% of respondents. Interpreting foreign qualifications (64%) and lack of cross-country comparison methods (45%) follow. Notably, micro-credential credibility is flagged by 45% of respondents, pointing to a recognition gap that the current policy framework has not yet closed.

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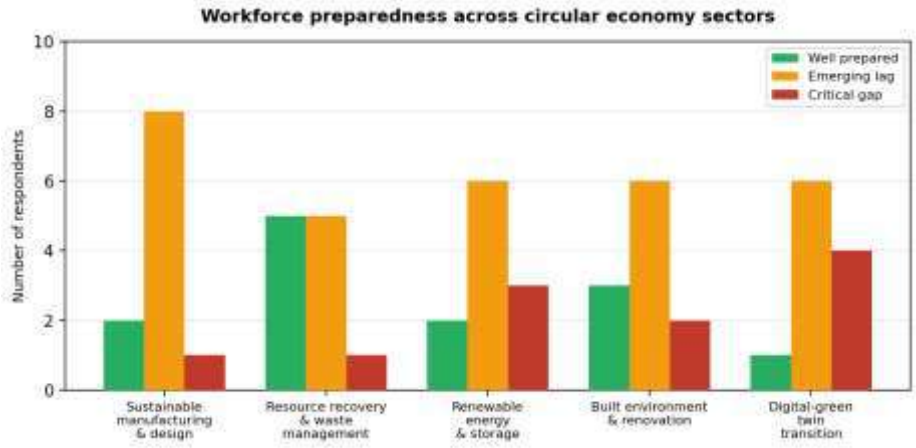
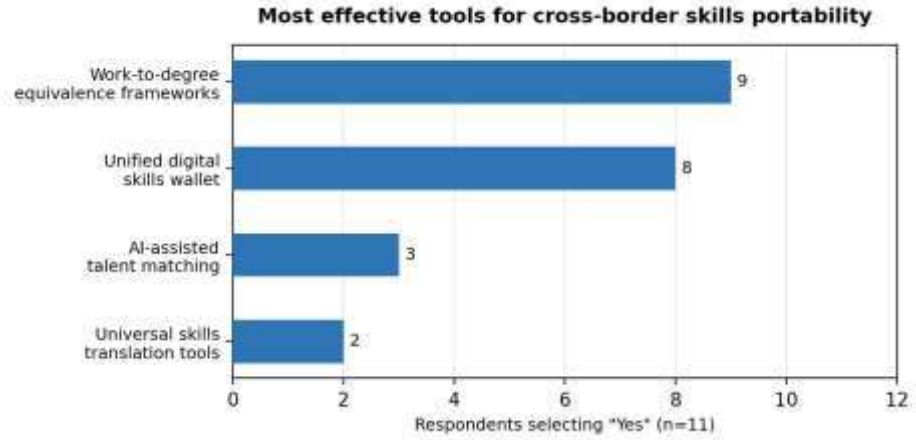


The digital-green twin transition shows the widest gap: 36% of respondents report a critical gap between training and industry needs. Renewable energy and storage (27% critical gap) and the built environment (18% critical gap) also stand out. Only resource recovery and waste management approaches adequate preparation, with 45% rating their workforce as well prepared. Sustainable manufacturing shows the starkest imbalance: 73% report an emerging lag while only 18% consider the workforce well prepared.



Work-to-degree equivalence frameworks — officially aligning work experience with formal qualifications — are the most strongly supported tool (82%), followed by unified digital skills wallets (73%). AI-assisted talent matching and universal translation tools receive much lower support (27% and 18% respectively), reinforcing the message that structural recognition matters more than technological solutions.

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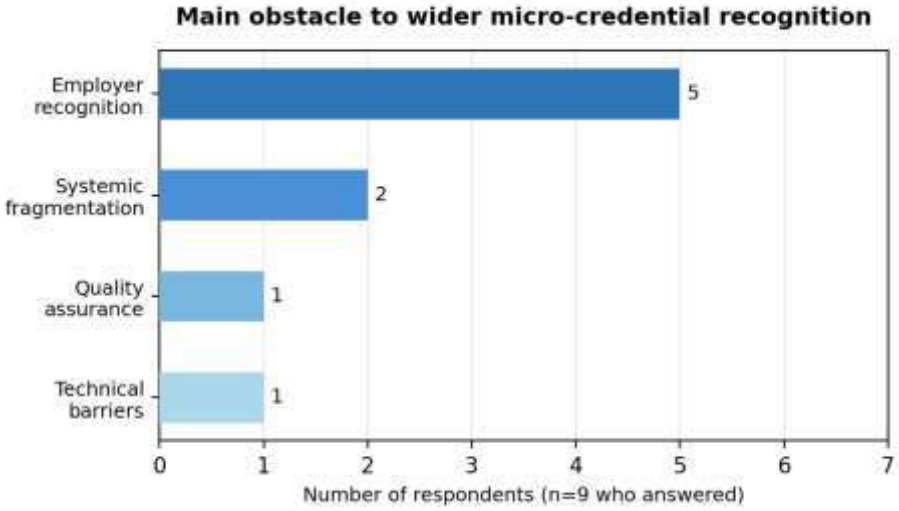

Employer recognition is the dominant obstacle: 56% of respondents who answered this question identify it as the main barrier. Systemic fragmentation (micro-credentials not being integrated into qualifications frameworks) accounts for 22%. Quality assurance concerns and technical barriers (lack of interoperable digital formats) are also present. The priority for EU intervention on micro-credentials in the green and circular economy should therefore focus on building employer trust through recognised endorsement structures, not on adding further technical infrastructure.

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