

**#EU
GREEN
WEEK**

Partner Event

Identification of the future circular economy skills for construction sector

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SDGacademy





We are a non-profit organisation accelerating Berlin's transition to becoming a circular metropolis.

KNOWLEDGE BUILDING

COMMUNITY BUILDING

EDUCATION

POLITICAL AGENDA

Our work extends the following areas:

- Building & Urban Strategy
- Food and biomass
- Textile and fashion
- Electronics



Raising awareness for the Circular Economy

Through education, we equip citizens, businesses, and local governments with the knowledge and tools needed to rethink traditional systems and embrace circular solutions.

≈50

workshops

+800

participants



Circular Economy Education: Rethinking Skills & System

Future-Oriented & Evolving

Circular economy is a critical future skill area, where competencies are still emerging as industries transition. Education must prepare learners for new roles that don't yet exist.

Beyond Waste Management

Is not just about recycling or waste, it demands a full value chain perspective, from raw materials to product end-of-life, that addresses how we produce, consume, and regenerate resources.

Multidisciplinary & Systemic

Learners must develop transversal skills: systems thinking, life cycle analysis, collaboration, and critical problem-solving.

Circular Economy challenges existing norms in product design, business models, and economic logic, encouraging learners to rethink how **value is created and sustained**.

In May 2023 CEDEFOP published its Policy Brief

Construction is an example of a sector in which circularity could lead to profound employment transformation.



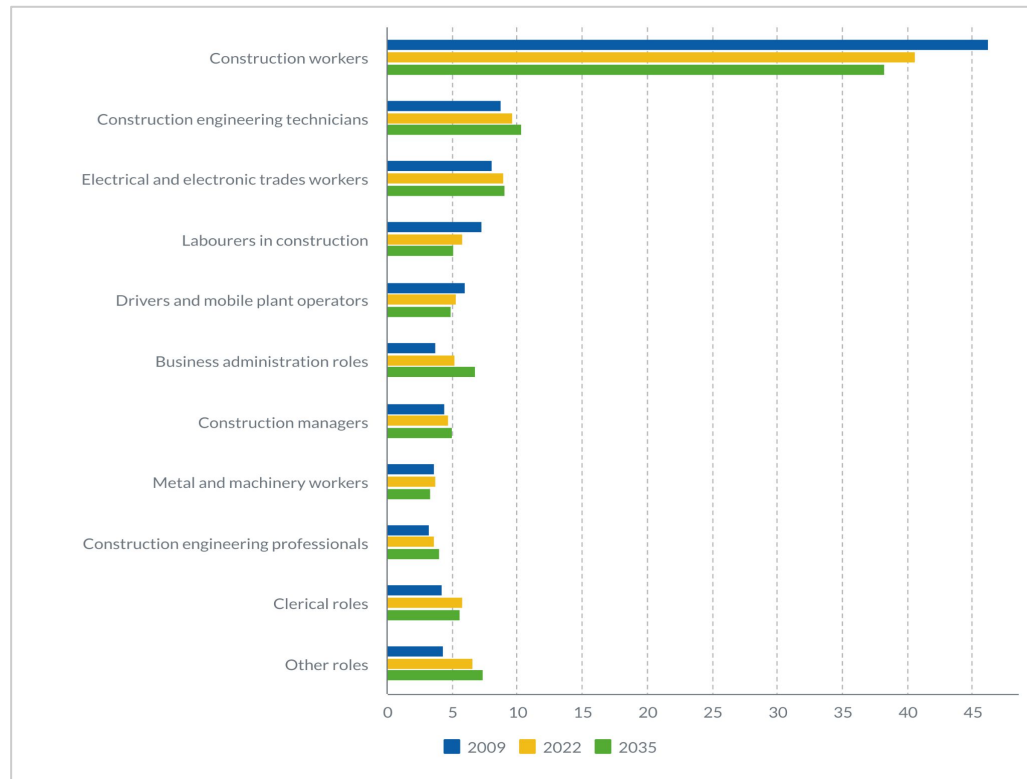
“Systems thinking and other core circular economy skills should be part of the core curriculum rather than optional add-ons ... need[ing] to harmonise basic circular economy courses nationally and across the EU”

The construction sector accounts for 6.6% of employment in the EU-27 (2021)

Employment in the construction industry is expected to show a downward trend and will primarily affect **medium and low-skilled positions**.

Engineering activities are gaining in importance, reflecting the sector's trend towards innovation and technology.

Business administration and **construction management** roles are also showing an increasing demand.



Employment shares of key occupations in construction (in %)

Our approach to identifying the circular skills gaps for the twin transition

Defining topical areas for the construction transformation

Literature and EU policies to identify critical issues and current/ future trends in construction.

Selection of the occupation across construction value chain

Identifying the existing and missing skills

2019 EU Green New Deal

2020 Circular Economy Action Plan

2021 Renovation Wave

Zero pollution Action Plan

2022 EU Taxonomy

New European Bauhaus

2024 EU Energy Performance of Buildings Directive (EPBD)

Construction Products Regulation (CPR)

Our approach to identifying the circular skills gaps for the twin transition

Defining topical areas for the construction transformation

Selection of the occupations across construction value chain

Guided by the ESCO taxonomy, which provides a structured EU framework for jobs and skills and revised by the survey and trend analysis

Identifying the existing and missing skills

European Skills, Competences, Qualifications and Occupations (ESCO)

3039

Occupations

Approx. 38
construction
related

The ESCO occupations pillar is built on ISCO-08 which serves as its hierarchical structure. ISCO-08 provides the top four levels for the occupations pillar and ESCO occupations are located at level 5 and lower. In ESCO, each occupation is mapped to exactly one ISCO-08 code.

All occupation concepts contain one preferred term and a number of non-preferred terms and hidden terms which varies across the 28 ESCO languages. An ESCO occupation includes additional information (metadata) such as descriptions, scope notes and information on regulatory aspects. Furthermore, each occupational profile lists the knowledge, skills and competences that experts considered relevant for this occupation.

0. Armed forces occupations

1. Managers

2. Professionals

3. Technicians and associate professionals

4. Clerical support workers

5. Service and sales workers

6. Skilled agricultural, forestry and fishery workers

7. Craft and related trades workers

8. Plant and machine operators and assemblers

9. Elementary occupations

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Cross-referenced Topical Areas research with ESCO's green and digital skills database (Collaboration with ESCO team)

Circular economy practices

129 skills for transformation

Zero emissions in the construction sector

178 skills for transformation

Occupant health and well-being of users

104 skills for transformation

Climate resilience and adaptation

110 skills for transformation

Sustainable materials and procurement

97 skills for transformation

New skills and knowledge identified for Circular economy practices

Building renovation and retrofitting expertise

- potential of existing buildings for reuse
- assess transformation potential of existing buildings for reuse

Circular economy principles and practices in construction

- circular business models in construction
- circular procurement

Digital Tools and Data Analysis

- digital tools that facilitate material tracking and reuse
- construction software that supports circular design and construction, material passport.

Design for Deconstruction

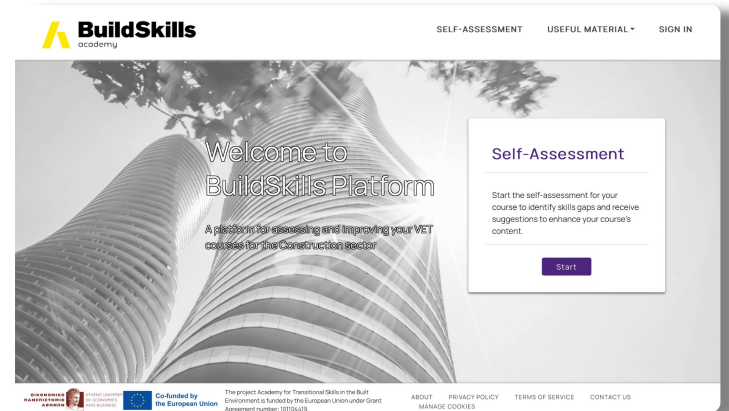
- techniques to minimize construction waste during deconstruction
- planning for deconstruction and future adaptability
- design buildings and structures for easy disassembly and reuse

Material flow management and waste reduction techniques and recycling

- material flow analysis
- tracking and optimizing the use of resources
- reusing materials on construction sites

Life Cycle Assessment (LCA)

Building Information Modeling



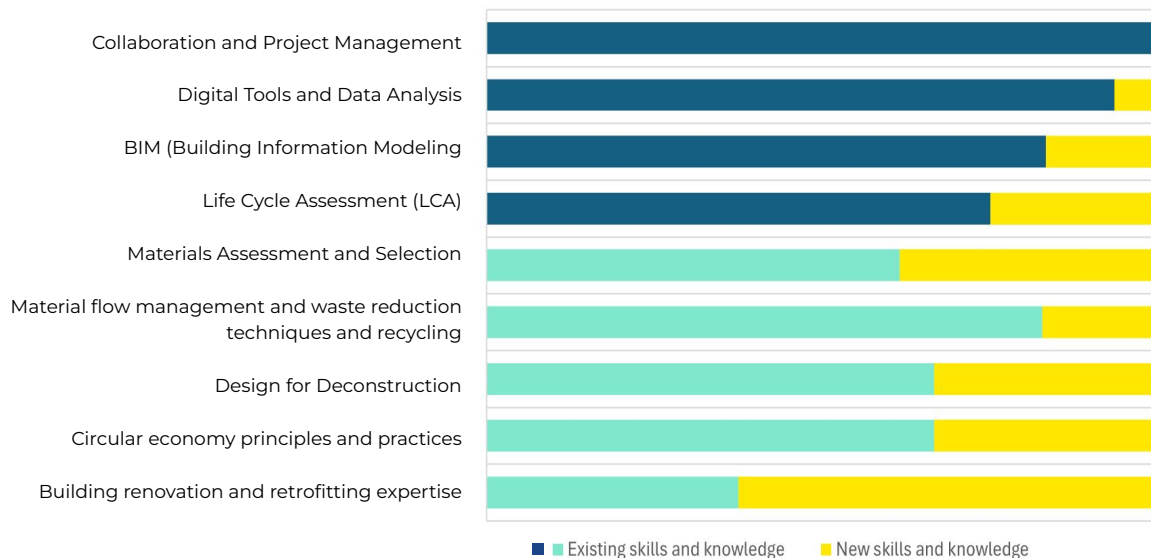
<https://platform.buildskillsacademy.com/>

In educational level, CE has not been effectively translated into specialized educational programs remaining mostly as general learning rather than on specific, technical aspects.

Top 6 ESCO* occupations addressed:

1. Engineers (civil and environmental)
2. Sorters (refuse sorters)
3. Civil engineering technicians
4. Architects
5. Building structure cleaners
6. Construction supervisors

Existing and new identified skills and knowledge for Circular Economy Practices



*European Skills, Competences, Qualifications, and Occupations

Our insights for Educational Design

1. Foster creativity and innovation in educational design via experimenting with new teaching formats and showcasing CE success stories
2. Position circularity as a competitive advantage for VET providers to attract new talents
3. Strengthen industry partnerships to be the first in identifying future skill gaps and co-develop relevant training modules.
4. Engage with industry front-runners & practitioners already experienced with CE to shape future skills development



Thank you.



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