Skills and jobs for the green transformation

Implications for VET

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Cedefop virtual get-together “Greening VET - What does it mean and what does it take?”

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Using skills intelligence to build up
Cedefop Green Observatory (Cedefop GO)

Change in sectoral, regional and local skills ecosystems
Target setting, emerging green tech and skill trends
Long term labour market impact of greening (forecasts)

EU skills forecast
Sectoral skills foresight
Online job ads analysis
Qualitative research & analysis
Expert groups
Information from Cedefop networks

The green transition creates many more jobs than it destroys

European Green Deal skill forecast scenario

- Substantial job opportunities are possible
- Employment benefits in most sectors, some negatively affected (e.g., coal mining)
- Indirect employment benefits mainly for service-based sectors (e.g. ICT, real estate)

Up-/reskilling for all workers:

- Targeted policy for ‘key’ and ‘thyroid’ occupations
- VET for workers’ transitions in ‘brown’ sectors (e.g. conventional electricity)
- IVET to prepare future workers for green(er) jobs

Source: Cedefop (2021) The green employment and skills transformation
Strategic, technical and soft skills foster the green transition

Strategic skills

Production skills

Marketing/communication skills

Digital skills: digital and data analysis skills

Enabling skills: product and process design skills

Source: Cedefop green skills foresights in cities, waste management, agri-food and circular economy.
Identifying ‘green’ occupations is not always straightforward

Online job adv. by greenness and required skill level (averages for Q1 2020- Q4 2022)

Source: WIH-OJA database. Figure available at Cedefop (2023). *Skills in transition*

Pervasiveness of ‘green’ terms in online job advertisements for financial analysts

Source: WIH-OJA. Figure available at Cedefop (2023). *From ‘greenovators’ to ‘green’ minds: key occupations for the green transition*
Green jobs in the future of work and VET’s role in accelerating transition

**Frontline green jobs**
- Construction professional
- Repair specialist
- Energy professional
- Material extraction/recycling/reuse expert
- Material and process engineers
- Circular product designers
- Transport and mobility specialist
- Environmental protection specialist

**Greentech specialists**
- Industrial problem analysts
- Industrial symbiosis facilitators
- Hydrogen specialists
- Urban space specialist
- Energy expert
- Circular economy plant designer
- Agronomists

**Green management**
- Green/smart city manager
- Logistics manager
- (Strategic) waste manager
- Waste valorisation professional
- Renewable energy managers

**Digital specialists**
- ICT professional
- Data scientists and data analysts
- E-commerce specialists
- GPS experts (precision agriculture)
- Waste sorting optimisation professional

**Green hearts and minds**
- HR specialists
- Consumer behaviour specialists
- Sustainability trainers
- Waste management trainer
- Citizen engagement specialist

Source: Cedefop green skills foresights in cities, waste management, agri-food and circular economy
Main occupations driving change in smart and green cities

- **Smart and Green City Management Professionals**
  - sustainability/climate officers
  - innovation managers
  - citizen engagement specialists
  - analysts and researchers
  - legal experts

- **Energy Professionals**
  - Design, installation and maintenance of environmentally friendly energy systems

- **Urban Space Specialists**
  - horticulturalists
  - gardeners

- **Designers**
  - urban planners

- **Professionals in Charge of Protecting Urban Space**
  - waste management
  - sanitation

- **Transport and Mobility Specialists**
  - Design, manufacture, installation, and maintenance of smart mobility systems

- **Environmental Protection Specialists**
  - environmental engineers
  - biodiversity protection professionals

- **Specialists to Boost Citizen Engagement and Improve the Ambiance of Urban Space**
  - communication specialists
  - psychologists
  - artists

- **Construction and Building Specialists**
  - Involved in retrofitting
  - better use of materials
  - design of buildings

Source: Cedefop (2022). *Cities in transition*
Up to 2035 jobs will rapidly become much more skills intensive

Source: Cedefop skills forecast 2021-35
High and mid-level trained people make greening happen

Growth in online job ads for renewable energy occupations (Q1 2020 = 100)

 Demand for renewable occupations, Q1 2023, EU27

Source: WIH-OJA
No green transition without all hands (& minds) on deck

- Highly and medium-skilled
- Tasks change rapidly (emerging “greentech”)
- Inventing, designing, conceptualising green transition solutions:
  - Engineers, process designers, scientists/R&D
  - Managers, lawyers, renewable energy technicians, construction technicians, communication specialists

- expanding employment
- shifting skill profiles:
  - technical skills linked to quick technology developments
  - transversal skills, such as problem solving, communication, attention to detail and adaptability

Source: Cedefop Green Observatory
Middle and low-skilled workers have a role in the green economy

- Technical profiles, e.g., builders/construction workers
- Decreased demand for low-skilled jobs, but still relevant for frontline green jobs: e.g., in waste management
- Social innovation: jobs relevant to retrofitting can enable the transition for vulnerable groups (e.g., early education leavers, migrants)
VET is a powerful twin transition enabler

Short-term (*sprint*)
- Recalibrating VET
- Targeted CVET: Adjust training to learners’ needs (e.g., short-training modules; microcredentials)

Accompany change
- Work-based learning/apprenticeships

Long-term (*marathon*)
- Shaping circular economy citizenship
- Technical and digital skills; but also *empathy*
- “Green” skills anticipation

Trigger change
VET/skills systems

Skills intelligence

Megatrends

PERMASKILLING

VET teachers/trainers/schools

national/regional/local authorities

employers organisations

trade unions

academia/researchers

learners/workers/citizens

NGOs/civil society

Upgrading jobs

Incentives & support
Thank you

For more information on Cedefop’s green work, visit Cedefop Green Observatory

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