



CEDEFOP

European Centre for the Development
of Vocational Training



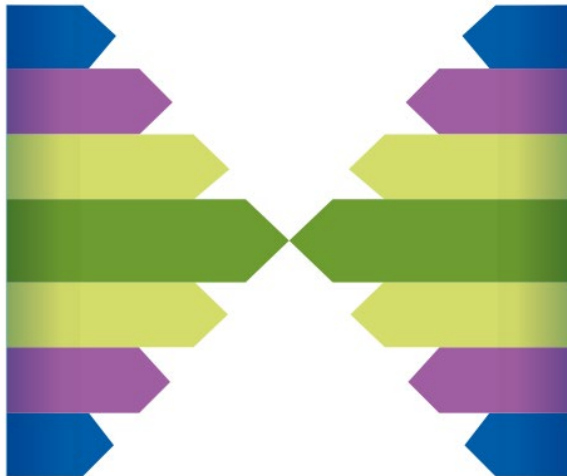
Learning for a greener future

Anticipating skills needs in the circular and green economy

Cedefop Virtual Get-Together

Meeting skill needs for the green transition

Skills anticipation and VET for a greener future



Cedefop-UNEVOC practical guide 4

[Meeting skill needs for the green transition](#)

Skills anticipation and VET for a greener future Cedefop-UNEVOC practical guide 4

[Unevoc online platform on Greening TVET](#)

From green ambitions for VET and skills to policy implementation

What are the information needs?

- VET and skills ecosystem stakeholders, including regions, sectors and VET providers
- information, inspiration, practical know-how
- prepare young learners for jobs in greener economies
- support adults in the transition to a green job
- accelerate and scale up skilling efforts

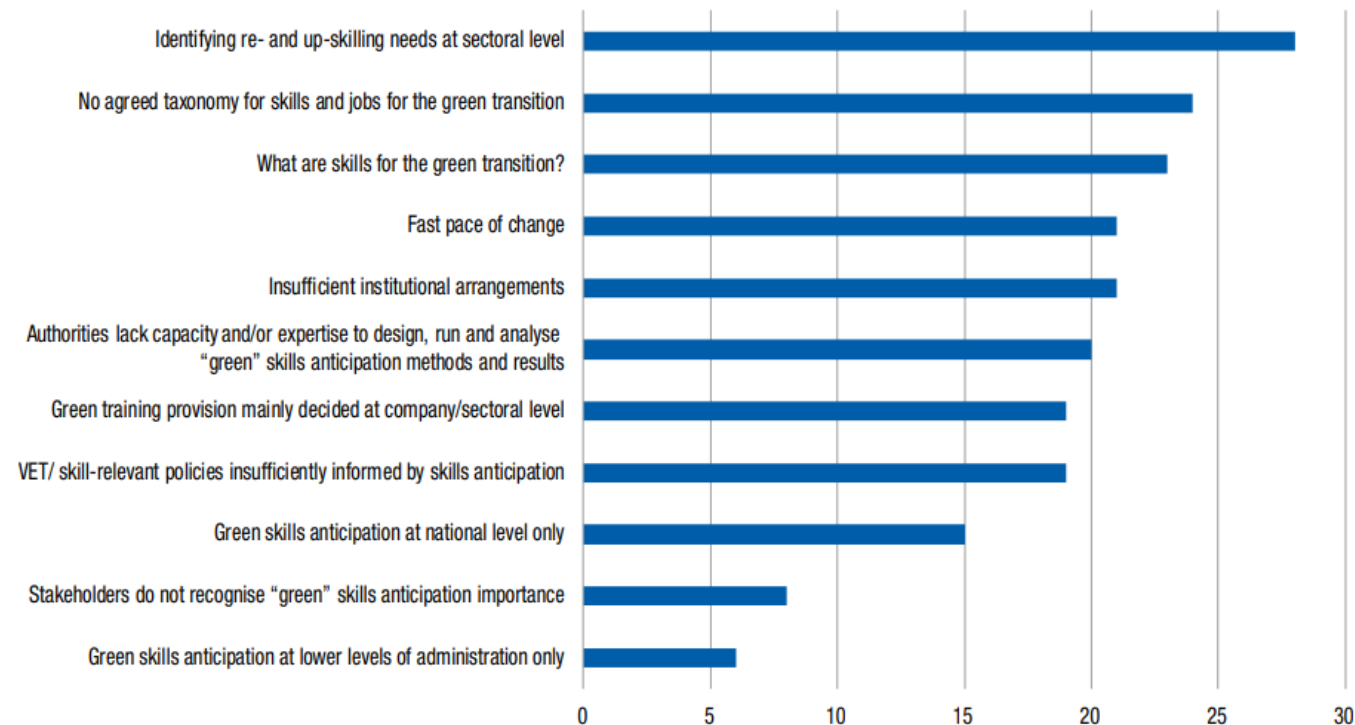
What is the guide about?

- value of sound skills intelligence and smart governance
- how VET can make a difference in practice
- skills anticipation and governance approaches driving greening
- apprenticeship, up- and reskilling, validation and microcredentials enabling a greener future
- good practice examples from all over Europe and beyond

Resilient “green” VET through skills anticipation

- *Greening’ skills anticipation methods:*
 - skills forecasts, skills foresights, tracer studies, skills surveys, big data analysis
- *agreeing on definitions*
- *sectoral and regional aspect*

Figure 1. **Key challenges for ‘green’ skills anticipation (number of countries)**

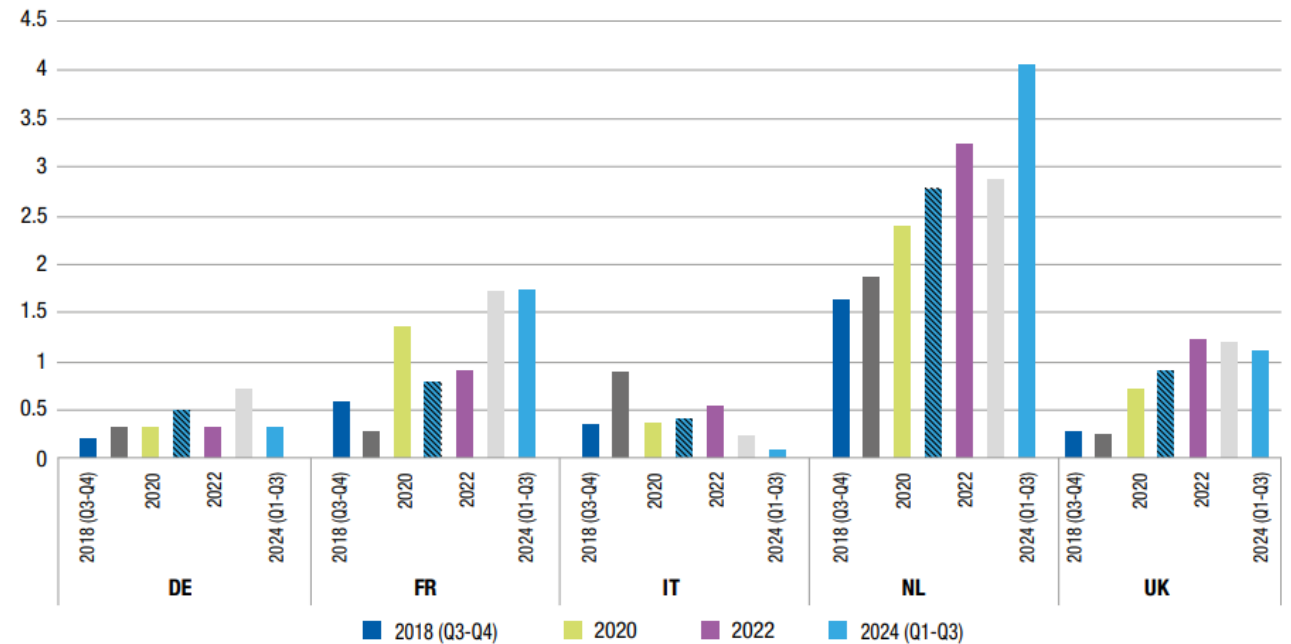


Source: Cedefop survey to ReferNet partners, 2023.

Online job advertisements power ‘green’ skills anticipation

- understanding **different shades of green**: greenness and green pervasiveness
- => degree to which the green transition impacts different types of jobs: how many of the skills employers demand are green
- Methodological support
 - Use of ESCO taxonomy
 - Level of granularity of OJA data: opportunities to identify skills needs in occupations that **cannot be understood easily, if at all, using other skills anticipation methods**

Figure 5. Green pervasiveness in online job ads for financial analysts, 2018-24

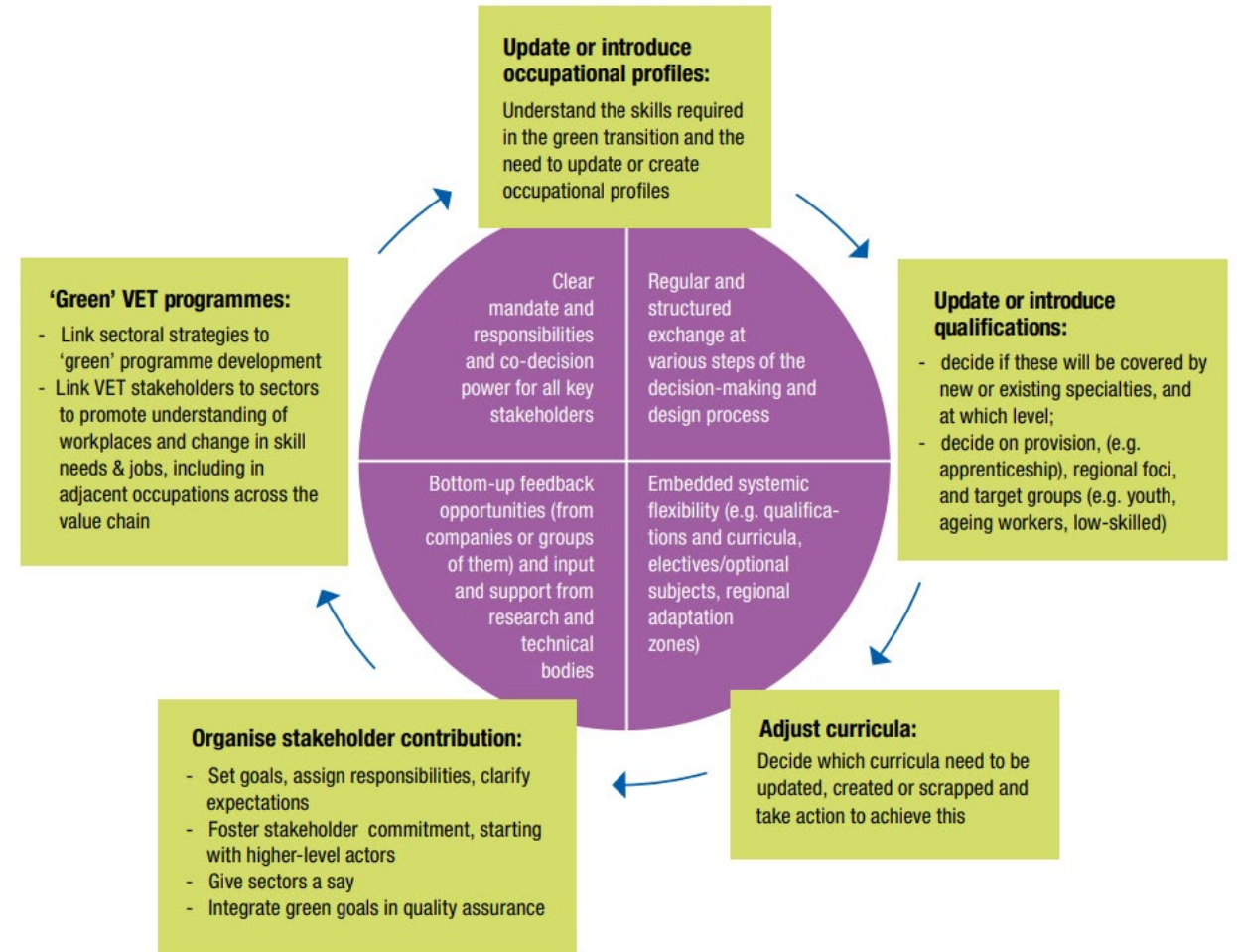


Source: WIH-OJA. Skills-OVATE skills online vacancies.

Going green is also about investing in governance

- Structured multistakeholder collaboration (national, regional, local)
- Socio-economic partners in the driving seat
- Partnerships
- Skills strategies (national, regional)

Figure 9. How stakeholder collaboration powers skills governance in the green transition



Greening potential of apprenticeships & upskilling at regional level

- Leveraging the teacher – trainer – apprentice **triangle**
- Supporting **SMEs** in ‘greening’ the content of their training
- Structuring collaboration on green transition between **schools and companies**
- Engaging **skills ecosystem stakeholders** to support schools and companies

Table 4. Skills development components in regional skill strategies for a just green transition

Skill development component	Description
Skills anticipation and monitoring mechanisms	refers to (a) efforts made through the strategy to identify and anticipate skill needs, and (b) mechanisms to provide comprehensive information on demand and supply for jobs and skills needed for the green transition.
Meeting upskilling and reskilling needs related to just green transition/ economic restructuring	refers to measures/programmes/agreements at regional, cross-sectoral or sectoral levels targeting up- or re-skilling individuals to stay in employment or become employed (e.g. to acquire digital skills, transversal skills, job-specific skills, full qualifications).
Social and professional activation measures	refers to instruments dedicated to labour market interventions mitigating the negative effects of the transition besides upskilling and reskilling per se, e.g. provision of shielding support in the labour market for those excluded or at risk of exclusion affected by the consequences of the economic restructuring, guidance, childcare support and other measures ensuring career continuation or career path change etc.
Adapting education and training to transition challenges	refers to measures, initiatives addressing the education and training providers (formal and non-formal) to become active in accompanying the transition through tailored provision, in a partnership approach with, e.g. labour market actors, civil society, public authorities)
Supporting entrepreneurship	refers to efforts supporting the creation of technology hubs, competence centres and business incubators, as well as occupational reorientation supporting diversification of the economy
Provision of in-company training	refers to measures and agreements encouraging and supporting companies to engage in providing workforce in-company training

Source: Cedefop, ongoing study on the role of the socio-economic partners in skills strategies for a just green transition: a regional perspective.

Microcredentials & validation of prior knowledge: potential in the green transition

Microcredentials

- learning outcomes approach enables greening of learning
- demand-driven MCs evolving outside of and independent from formal education and training systems
- good practices from Ireland, Denmark, Estonia, EU-funded projects

[Cedefop's ongoing microcredentials broad stakeholder group survey](#)

Open until June 27th

Validation

- use existing approaches/processes
- reduce programme duration
- access to green transition jobs
- transfer to new occupations: reskill or redeploy workers
- using skills overlaps to guide validation processes
- “exercise” using common essential skills between target and source occupations



AI: an ally for greening VET

- A novel area with great potential
- examples of national initiatives for AI in education Luxembourg, Germany, Australia
- initial indications for support of VET teachers from AI use for updating programme content and tools
- personalise training for sustainability
- Cedefop attempt using prompts in Copilot

Box 31. Example of an AI prompt providing advice for green transition careers

Prompt: I am 15 years old living in Ireland. Would a career as an installer of photovoltaic panels be promising? Can I get qualified as a photovoltaic panel installer through an apprenticeship?

Response: A career as a photovoltaic (PV) panel installer in Ireland looks quite promising! The renewable energy sector is growing rapidly, and there's a strong demand for skilled professionals in this field. Ireland is committed to increasing its renewable energy capacity, which includes solar energy, making it a great time to enter this industry. You can indeed get qualified as a PV panel installer through various training programs and apprenticeships. Many training providers offer courses that cover both theoretical knowledge and practical skills needed for installing solar panels safely and efficiently. For example, the QQI Level 6 courses in Micro Solar Photovoltaic Systems Implementation and Electrical Installation and Commissioning of Micro Generators are popular options.

Additionally, apprenticeships are a great way to gain hands-on experience while learning from experienced professionals. You can look for apprenticeship opportunities with companies that specialize in solar panel installations or through industry associations like the Irish Solar Energy Association (ISEA).

If you're passionate about renewable energy and enjoy working with your hands, this could be a very rewarding career path for you! Do you have any specific questions about the training or the job itself?

Source: Conversation with Copilot ⁽³²⁾, 2.8.2024

Thank you

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