BUILDING GREEN – BUILDING SKILLS ECOSYSTEMS MOVING FORWARD IN PROVISION OF SKILLS FOR THE GREEN TRANSITION

15TH FEBRUARY 2024, 12:00 – 14:30 WEBINAR

1. Introduction

ETF's Network for Excellence – ENE - supports **vocational excellence** development together with more than 290 centers of vocational excellence from more than 40 countries.

ENE's global green VET partnership, **GRETA** (**G**reening **R**esponses to **E**xcellence through **T**hematic **A**ctions), supports **the greening of VET as a** response to the green and digital transitions.

GRETA's **whole institutional framework** sets the methodological frame for the greening of VET around five interlinked dimensions: **1) Strategies for going green, 2) Green curricula, 3) Enabling teachers and trainers, 4) Stakeholder collaboration,** and 5) Funding and policy alignment.

GRETA's **thematic online sessions** present and share good practices. The meetings Report and presentation materials from all previous sessions are available on GRETA's Open Space page. Also, you are kindly invited to read the report **Greening of Vocational Education and Training: Processes, Practices and Policies.**

The online event, which took place on **15 February 2024, focused** on **skills for a green future.** It zoomed in **on the role of Centres of Vocational Excellence** (CoVEs) **in green skills ecosystems.**

The event unpacked the **skills ecosystem** and looked into the **dynamics of green partnerships** to **identify actors and enabling factors** for efficient skills provision.

The webinar included the presentations and insights of the panel discussion by **practitioners on moving forward in providing skills for the green transition:**

- from the CoVE- School centre Nova Gorica from **Slovenia**, on Unpacking the skills ecosystem
- from Construction College 'Construct 2', **Georgia**, and Centre of Excellence for Construction, **Moldova**, on Skills for the green transition
- from **North Macedonia** and **Slovenia** on how to move forward in skills provision for the green transition.

For more information, please contact the Lead Expert, **Susanne M. Nielsen** at ETF smn@etf.europa.eu

2 Opening of the session

The GRETA webinar was opened by **Jose Manuel Galvin**, **ENE Content Coordinator**, ETF, with the welcome greetings.

His message emphasized a commitment to international collaboration in vocational education and training (VET) systems, particularly to **the European Training Foundation's vocational excellence project**. The project on vocational excellence is being implemented on behalf of the European Commission. International collaboration has focused on learning together and sharing practices within the **ENE,** the **ETF network for vocational excellence**, which now has more than 300 members.

The ETF is engaged in policy learning, research, and initiatives related to topics like the green transition, social inclusion, digitalization, and entrepreneurship in VET.

The commitment to building a strong network for vocational excellence includes welcoming new members to contribute and collaborate on various thematic areas, including green skills ecosystems and understanding the skills needed for the green transition.

2. Greening VET

Susanne Nielsen, **the lead expert for ETF GRETA** – provide provided a presentation on the meetings' subject on **skills eco systems** and greening VET. For newcomers to the GRETA session Nielsen also provided information on the work and activities provided in GRETA.

GRETA is the green development partnership of the ETF ENE network for excellence, supporting green skills development through capacity building, peer learning, lifelong learning, and strategic collaboration with international partners.

GRETA is the abbreviation of the title of the partnership – Greening Responses to Excellence through Thematic Actions - and also a tribute to the climate activist, Greta Thornburg from Sweden). The title also represents what the ETF GRETA does within the global greening VET partnership and greening responses to excellence through thematic actions.

The GRETA partnership **applies a whole institutional approach to the greening of VET**, covering **five dimensions:**

1) Strategies for going green
2) Providing green skills throughout the curriculum
3) Enabling teachers and trainers to promote green skills (teacher's professional development)
4) Collaboration on green VET provision and initiatives with different and relevant stakeholders
5) Funding green VET provision and initiatives.

The Susanne Nielsen highlighted GRETA's publication, summarizing the five elements of greening VET and providing inspiring examples from practitioners in VET schools and centers of vocational excellence (CoVEs). These examples illustrate the implementation of green practices in various aspects of VET. GRETA's work over the past two years, including analyses, reports, and resources, is accessible on the ETF open space page. GRETA engages in peer exchanges and reviews to identify challenges and opportunities for advancing green skills development, offering policy pointers to enhance system governance. Currently, GRETA focuses on the **construction and renewable energy sectors** in its efforts to support the green transition.

Susanne introduced the agenda of the online event and highlighted that it would dive into the **complexities of the skills ecosystem** and **discuss dynamics and enabling factors** in the context of the green transition. Most of all, the overall goal was to learn from each other and foster collaboration in advancing green skills for the green transition.

There is a shift in VET systems, with skills identification moving to regional levels and increased cross-sectoral collaboration. The changing roles reflect the dynamic nature of VET systems and their **adaptation to climate challenges**. CoVEs recognize the evolving skill ecosystems, involving **new stakeholders** like research institutions, universities, start-ups, NGOs, and experts in green fields with 21st-century skills.

3. Unpacking the skills ecosystem

Adrijana Hodak, the Head of the Intercompany training center from Šolski Center Nova Gorica (one of the core members of GRETA), focused in her presentation on:

- the importance of establishing and managing the **purpose- and impact-driven skills ecosystem**
- what are the **enablers for an efficient skills ecosystem** (presented as recommendations)
- **adaptive skills ecosystem** as one of the key enablers to achieve the green impact in the CoVEs' regions.

The presentation tried to offer the participants some answers to the questions, such as:

- How can policymakers ensure that green policies are effectively implemented in collaboration with CoVEs?
- How can CoVEs/VET providers contribute to better green policy implementation?
- How do we design the VET provision responsive to the evolving labor market and climate change challenges?
- How do we establish committed and purpose-driven skills ecosystems?

The presentation exposed that despite numerous green policies, their impact remains limited. The London School of Economics reported over 2,860 climate-related laws and policies globally by September 2022, implementing at least one such law/policy within 192 countries and the EU as part of the Paris Agreement. However, the world's first global stocktake technical report indicates insufficient progress in keeping the global temperature rise within 1.5 degrees. The lack of effective implementation hinders achieving green and sustainable goals.

The introduction explained the key concept of Centers of Vocational Excellence (CoVEs). CoVEs, **leading VET institutions**, serve as models, coordinators, or pathfinders for others, **revolutionizing VET** with a holistic approach to skill development and fostering regional growth and innovation through **continuous collaboration within the skills ecosystem.**

The concept of the **skills ecosystem** involves collaboration among **businesses, education providers, NGOs, and local stakeholders**. This collaborative effort aims to enhance skills development and business performance for employees, necessitating clear responsibilities for skills-related tasks. The European Commission's CoVE initiative, initiated in 2019, extended collaboration to include **research institutions, universities of applied sciences, and policymakers** at various levels.

The presentation exposed **two identified challenges** for CoVEs, policymakers and other stakeholders of the skills ecosystem that hinder them to more efficient contribution to the green transition:

- the **inertia** caused by **numerous unprioritized green policies**

- a **slow responsive skills ecosystem** with **unclear roles.**

The first challenge revolves around aligning CoVEs with global, EU, national, and local green policies (e.g. the Paris Agreement, European Green Deal, Delta program in the Netherlands, Leuven's Roadmap), presenting communication difficulties in this multi-level ecosystem. UNESCO data from 2023 highlights a **global gap in integrating climate change into national education curricula** (only 53%), while the EC's 2022 proposal acknowledges the **lack of systemic environmental sustainability in EU policies**.

The second challenge addresses the **changing landscape of VET**, creating **new roles in skills ecosystems**.

Based on challenges and reflections, **two key recommendations for policymakers/ CoVEs/other stakeholders** have been identified:

1. First, we need to make a **shift from dispersed and numerous green policies to aligned, effectively coordinated, and prioritized** green policies/actions.
2. Second, we need to make a **shift from a slow, responsive** skills ecosystem **to** an **adaptive skills ecosystem.**

First, one of the key enablers was highlighted: the **Adaptive green skills ecosystem.** The adaptive skills ecosystem **constantly adapts and responds** to the **needs of** the **economy, society,** and **environment.**

Only an adaptive green skills ecosystem is able to meet the needs of the fast-changing labor market and climate change. It means we need to consider different combinations of the relevant stakeholders and define their roles and responsibilities to develop specialized skills according to various scenarios/needs of VET provision:

- The skills ecosystems for **formal VET programs** (traditionally **one-sectoral** programs) and the emerging green skills ecosystems, such as for the:
- the skills ecosystems for **cross-sectoral initiatives**,
- the skills ecosystems for **continuous** Vocational Education and Training (CVET),
- the skills ecosystems for **fast**-prepared training **programs for climate adaptability**.

The presentation continued with presenting **recommendations for policymakers**.
To achieve effective coordination of green policies, policymakers can:

- Establish **an effective coordinated national green policy framework**, providing CoVEs with a roadmap for the green transition and ensuring alignment and consistency across levels. This includes harmonizing terms related to the green transition and creating **National Green Info Points** for simplified and aligned policies, a "**green dictionary**," and information dissemination about **funding opportunities**.
- **Align green policies with other VET policies**, fostering a holistic approach to education for sustainable development, including digital transition, career guidance, entrepreneurship, and lifelong learning (CVET).
- Create **communication channels and collaborative platforms** for stakeholder collaboration, promoting a unified vision within the green skills ecosystem. This helps prevent overwhelming inputs and facilitates effective interaction, information sharing, and coordination among CoVEs and stakeholders at various governance levels.
- Introduce **policy implementation monitoring mechanisms** to monitor and evaluate the implementation of green policies within the skills ecosystem.

To enable the **systemic integration** of the **adaptive green skills ecosystem** at the national level, it would be necessary to:

- adapt the skills ecosystem for the **formal VET programs in a specific sector.** Currently, it works too slow in responding to the demands of the fast-changing labor market.
- establish the skills ecosystem for the **cross-sectoral programs or modules.**

It is essential to **map stakeholders, design the ecosystem structure** (e.g. Erasmus+ Talentjourney project), and envision its unified goals. Mapping aids in identifying benefits, challenges, and opportunities, fostering alignment, while a unified vision promotes common autonomy and structured actions for lasting impact.

The presentation concluded with **key takeaways** for achieving a green impact. Policymakers can coordinate grassroots green actions through a policy framework. CoVEs play a crucial role in harmonizing green policies within regional skills ecosystems and designing responsive VET provision. Building a committed skills ecosystem involves mapping stakeholders, interactions, and shared values.

4. Practice sharing - Skills for the green transition

Within this session two **CoVEs shared their experiences and insights on skills ecosystem**: the first best practice was presented by **Tamar Zakarashvili**, Director of Construction College 'Construct 2'in Georgia, while the second one was presented by **Lilia Zestrea**, Head of Life Long Learning Department, from the Center of Excellence in Construction in Moldova. Both presentations delved into the greening of the construction sector, focusing on skills identification, stakeholder collaboration, and perspectives on enhancing efficiency in cooperation.

Construct 2, established in 2018 through a public-private partnership between BK Construction (a company) and the Ministry of Education in Georgia, addresses the construction industry's need for a skilled workforce. While the Ministry oversees operational aspects, BK Construction contributes to building renovations, provides learning materials, and offers student scholarships.

In 2020, BK Construction became a pioneer in Georgia by fully transitioning to aerated concrete blocks for construction, demonstrating a commitment to environmentally friendly practices. This shift involved hiring specialists from neighbouring countries initially, as Georgia lacked skilled bricklayers familiar with the new material.Construct 2 adapted its bricklaying program and successfully trained over 200 students (now employed in the construction sector), addressing the industry's need for skilled professionals capable of navigating eco-friendly practices.

Construct 2 Technical College is a key solution to the industry's skill gap, offering **reskilling programs that align with dynamic labor market needs**. These programs cover both traditional construction practices and the latest green technologies. The college shapes a **workforce for sustainable practices**, integrating green building methods and technologies. Collaboration with industry experts, investment in modern technologies, and **prioritizing teacher training** are crucial elements for exposing students to cutting-edge practices and ensuring effective knowledge transfer.

Acknowledging challenges, the speaker highlighted the **increased cost of green technologies** compared to traditional ones, causing hesitancy among businesses to adopt new technologies. Identifying the challenges underscores the need for increased financing for green technologies and emphasizes the importance of retraining teachers to facilitate the successful integration of eco-friendly practices.

After finishing the presentation, the participants were invited to comment. One of the participants highlighted the importance of embodying green principles in organizational actions, even when not the primary focus, emphasizing the need for increased financing for green technologies. He sees **embracing greening initiatives** not just as an expense but as an **opportunity** to foster innovative **solutions through environmentally conscious practices.**

The next speaker came from Moldova, **Lilia Zestrea**, who is the **Head of LifeLong Learning Department at Centre of Excellence for Construction.**

She provided insights into the Center for Construction, one of Moldova's oldest VET institutions with 1400 students, highlighting its COOP NET network connecting 15 VET institutions in the construction sector. Responsible for adult education, she takes care of training VET school teachers and construction sector employees, offering validation and certification of competencies. The center collaborates effectively with the private sector and VET institutions, particularly the Federation of Employers in Construction and Construction Materials Production, which represents companies and aids in identifying worker training needs. Their collaboration involves workshops, online meetings, and the exchange of best practices.
To identify the workforce needs, they use questionnaires structured around four directions:

- purpose and theme,
- general information,
- workplace details, and
- identification of professional training needs.

A good example of collaboration with the Federation is short courses demanded by trades like asphalt concrete, carpenter, reinforced concrete, plasterer, tile setter, and drywall installer. The courses usually last from half a day to a maximum of 3 days.

She also highlighted that some workers in construction have experience but no education. Therefore, they were interested in the **validation/certification of their competencies gained at the workplace**.
The emphasis within their department for Life Long Learning is also on reskilling programs and short-term courses in the following topics:
-implementation of the environmental protection standards in professional activities
-the correct storage of construction waste at the construction site
-reuse of waste construction. Green concrete.

Recognizing that some companies don't follow recycling rules, the center worked together in October 2023 to find eco-friendly concrete solutions. They also provide training for workers, focusing on environmental awareness. They believe **collaboration** between **schools, businesses, and government bodies** is **essential for a strong skills ecosystem**.

5. Moving forward in skills provision for the green transition

This part of the session included the panel discussion involving three experts: **Zoran Apostolovski**, Head of Networking and Cooperation at Regional VET Centre "Kiro Burnaz" Kumanovo from North Macedonia; **Mila Velkovska**, project assistant and researcher at the National Centre for Development of Innovation and Entrepreneurial Learning (NCDIEL), North Macedonia and **Valentina Kuzma,** Senior Consultant at CCIS CCBMIS from the Chamber of Commerce and Industry of Slovenia (Chamber of Construction and Building Materials Industry).

First, the panelists presented briefly their institutions.

The State Secondary School - **Regional Vocational Education and Training Center "Kiro Burnaz**" in **Kumanovo, North Macedonia**, specializes in formal and non-formal education, adult education, and validation of non-formal and informal learning in sectors such as agriculture, fishery, veterinary, chemistry, and technology. The center offers formal education in various fields, including agriculture, chemistry, technology, mechanical engineering, personal services, traffic, transport, storage, health, and social care. Organized into different departments, RCVET focuses on ensuring educational and professional learning results and contributes to the development of relevant policies in education, entrepreneurship, the labor market, and related areas. Additionally, RCVET provides expertise, knowledge, information, and services to other training providers.

The National Centre for Development of Innovation and Entrepreneurial Learning (NCDIEL) in **Skopje, North Macedonia**, has been actively promoting innovation and entrepreneurial learning since 2009, undertaking over 50 projects to reduce unemployment. Dedicated to fostering a culture of knowledge and innovation, NCDIEL conducts research, skills analysis, and supports regional and national strategies. Emphasizing green learning and skills development, NCDIEL founded the first Centre for Excellence in Green Innovation (CEGI) and leads research in green innovation across regions. Engaging in capacity building, the institution supports projects in Ethiopia and Western Ukraine. NCDIEL experts have assisted the National Power Plant company in upskilling and reskilling workers, contributing to projects funded by EBRD and implemented by PwC.

The Chamber of Commerce and Industry Slovenia (CCIS) is engaged in various sectors, focusing on Twin Transition, Connectivity, Re-Industrialization, State Role, and Member Services. They collaborate with the Institute for Business Education (CPU) and the Chamber of Construction and Building Materials Industry of Slovenia (CCBMIS). CPU provides professional training, while CCBMIS promotes sectoral practices and is actively involved in qualifications development boards for VET development. The CCIS CCBMIS staff participates in EU projects, focusing on various construction and building materials topics in alignment with EU-level sectoral social partner agreements, covering green and sustainable construction, circular economy, energy efficiency, digitalization.

Later the panelists were invited to express their thoughts and experiences on ensuring purpose-driven green skills ecosystems, the role of stakeholder mapping/identifying key roles, relevant enablers for establishing skills ecosystems, and effective methods for measuring their impact on carbon footprint.

In Mila's opinion it is crucial to build a strong team with representatives from different relevant institutions, and let that team grow and strengthen. She believes that everyone is aware and well-informed about the challenges we are facing. Therefore, it is important to include key actors and **create a sense of belonging in the ecosystem, to become purpose-driven.**

Looking back to the green skills analysis her institution did in 2021 as part of the GREENOVET project, she highlighted the importance of identifying a starting point and conducting desk research mainly on regional and national strategies, action plans, and directions. Afterward, **the involvement of different types of stakeholders helped to have better insights and brought clear conclusions**.

Therefore, the process of identifying/mapping was very relevant for them. It is crucial to hear the voice of the industry in order to identify what is lacking and what is needed to ensure that educational institutions deliver a capable workforce to cope with today's challenges. That kind of approach was used in all four participating regions within GREENOVET: Styria, Vaasa, Leiria, and Skopje. She exposed four approaches they used, and she found relevant when establishing the skills ecosystem:

- They established four regional committees in Green Innovation (each with 20 different actors coming from VET, HEI, industry, public authorities, and NGOs)

- They followed the smart specialization strategies in each region to structure the research methodology – she mentioned here the priorities in the Skopje Region (national S3 was used, as there is no regional one)
- They conducted a skills gap analysis in each region, where more than 50% of the responses in each region were obtained from industry representatives.
- They delivered lists of technical and generic green skills that should be prioritized in each region. The generic skills are those transversal skills they were working on at the moment within their CoVEs in Green Innovation.

Zoran emphasized the need for a purpose-driven skills ecosystem, referencing the "Green Agenda for the Western Balkans" signed in November 2020. Aligned with the European Green Deal, this agenda focuses on a neutral and competitive economy. The Economic and Investment Plan supports long-term green and sustainable economic development, targeting decarbonization, circular economy, pollution reduction, sustainable food production, and biodiversity. In North Macedonia, the National Development Strategy (NDS) 2023-2043 prioritizes green and digital transformation for a resilient economy. Despite installing 600 megawatts of photovoltaic plants in the last two years, challenges persist, with 48.6% of electricity from thermal power plants (487 608 tons of coal monthly). He sees this **green transition as an opportunity for VET providers to play a crucial role** by closely monitoring and **adapting to the evolving skills** landscape, taking initiative, and leveraging their capacities and expertise to take the lead in the **future skills ecosystem.**

Over the past 3-4 years in North Macedonia, significant changes have been introduced to the VET system, which significantly shaped and improved the skills ecosystem. These changes include:

implemented **dual educational programs**, positive stakeholder responses, and the **establishment of five Regional VET Centers**. These centers serve as hubs for stakeholders and are organized into different departments, such as Networking and cooperation, Business, marketing, and ICT, Adult education and VNIU, and Science, innovation, and economy. These centers focus on tasks like **mapping and cooperation with relevant stakeholders**, researching the labor market, developing programs and curricula, and promoting VET.

Additionally, initiatives include Career Guidance, monitoring graduate engagements, scholarships for dual education, and ongoing professional training for teachers to meet job market demands, including digital competency training.
Zoran highlighted the importance of raising awareness among students, emphasizing the region's heightened awareness of environmental protection due to media campaigns and evident pollution issues. He underscored the impact of major cities in North Macedonia ranking among the top cities globally for air pollution. Zoran believes that awareness is crucial for people to accept and create positive changes, aligning with the region's commitment to environmental protection.

Regarding the Slovenian Chamber of Commerce, **Valentina** revealed that they pay much attention to the twin transition, green, with the support of digital. She exposed that they are developing for companies a **tool for self-assessment to measure, monitor and manage** their internal construction processes to **reduce the carbon footprint**. They foster companies to innovate and develop, especially, building materials for industry. There are many **eco-labels** of type one, two, and type three.

In the Slovenian market, only 5% of building materials have any eco-label. Therefore, companies have huge potential to offer green products and materials.

In that way the architects know what to take and use. In Slovenia, the Ministry for Economy runs an important IP Care4Climate project. Within the project the Slovenian government prepares the catalogue for sustainable construction materials and products. The tool is free to use for any company that will be

included in the public procurement system. They will be able to use this catalog as a **reference point for greening the services** and buildings for the public sector.

In a few months, the catalogue with eco-labels will be available, with type one and type three eco-labels in it because type two is from the companies. The only challenge remains providing the financing to support the companies in gaining such an eco-label. The process of gaining is not cheap. It costs a few 1,000 EUR just for one product to acquire this eco-label. Additionally, the chamber also **supports VET schools to introduce teaching about eco-label and eco-design**. For this purpose, a special handbook was designed on how to design eco-label products. In that way, they foster not only green design but also think green and offer to the market something green.

Later, the panelists also discussed TVET research dimensions based on participant questions. Mrs. Mila emphasized **capacity-building** activities to build the capacities of **teachers** through research, citing a Ukraine project mapping regions for targeted teacher training. Mr. Zoran highlighted **TVET research on labor market needs**, informing curricula and fostering collaboration with NGOs. The Ministry of Education's ongoing research initiative monitors graduate outcomes, aiding strategic planning. Mrs. Valentina focused on green initiatives, introducing **awards for environmental research, leadership, innovation, and green sustainability** to challenge stereotypes and attract youth to the sector.

Toward the end of the panel discussion, the participants were invited to give their votes to the question: How can institutions stay responsive to the changing demands of the green transition while maintaining the educational standards? Among the proposed answers are Implementing a flexible curriculum, Prioritizing continuous professional development, Integrating experiential learning, Establishing global collaborations, Engaging with Sustainable Practices on Campus, Regular Industry Consultations, and Regular Curriculum Review Committees. Among all the answers, the majority of participants decided to vote for **Implementing a flexible curriculum.**

The panel was concluded by the panelists commenting on the “winner” of the answers.

Valentina noted that 20% of the VET program in Slovenia consists of open/flexible curricula, with schools frequently consulting chambers on relevant skills. Zoran emphasized the importance of a flexible curriculum, urging swift adaptation to labor market needs. VET providers should be ready to change curricula rapidly to address emerging skills, advocating for **short-term programs to enable quick preparation**, which is challenging under national curricula. Mila underscored the **importance of teacher motivation** in preparing the 20% flexible curricula, highlighting the need for **continuous professional development to support the teachers**.

The GRETA webinar gave some very important key messages:

- Policymakers can ensure **aligned, effectively coordinated, and prioritized green policies**/actions at the grass-root level by establishing a **coordinated, green policy framework**.
- CoVEs can contribute to better green policy implementation by effectively **coordinating and harmonizing** the **green policies within the regional skills ecosystem**.
- CoVEs can design a responsive VET provision through Adaptive green skills ecosystems.
- To build a **committed skills ecosystem**, **map** out who's involved, how they interact, and what values they share.
- **Lack of systemic funding** can **hinder green innovation** within the regional skills ecosystem and the **introduction of green technologies**.

- Driving impactful green transitions can be promoted through industry collaboration in crafting **tools for carbon footprint management** and innovative eco-friendly building materials. Using government help to make helpful catalogs/handbooks can guide smart shopping for a greener world.
- It is important to stimulate the **adoption** and funding **of the eco-label**, supporting vocational schools in nurturing a green mindset and introducing environmentally conscious products and practices.
- The adaptive skills ecosystem can be implemented with high quality only with **motivated teachers** and those teachers who are continuously involved in **professional development**.
- **Green transition is an opportunity for VET providers** to play a crucial role by closely monitoring and adapting to the evolving skills landscape, taking the initiative, and leveraging their capacities and expertise to take the lead in the **future skills ecosystem.**