Best Practice Toolkit

Promoting and Tracking Environmental Sustainability in VET

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About the EnviroVETProject

This project is funded by the Erasmus+ programme of the European Union.

Partners

CWEP, Poland – Coordinator
Cuiablue OÜ, Estonia – Partner
Mindshift, Portugal – Partner
HKIK, Hungary – Partner
Ecological Foundation Education, Latvia – Partner
SPP, Lithuania – Partner
FYGConsultores - Partner

Introduction

The European Commission has set the ambitious goal of achieving the climate neutrality by the year 2050. This aim can only be achieved if initiatives are started immediately and ignite the required changes in the understanding, perception, and adoption of environment focused attitudes at all levels of the European education and training ecosystem.

It is predicted that by 2030, at least 1 million new jobs will be created because of a shift towards a low carbon economy. This will result in the need of either reskilling or upskilling of more than 120 million people living in the EU over the next 5 years.

New set of skills, both soft and technical, are becoming an emerging need. These skills make it possible for citizens to enjoy an active role in the economic activities and change the way people live; facilitating what is described by Green Compas "green culture". According to UNESCO, green skills in the workplace can lead to the increased resilience and adaptability of all levels of employees that will contribute to green growth, global health, and societal resilience. The positive impact on the environment will require new set of skills for many of the future jobs.

The EnviroVET project will contribute to and support this shift by providing knowledge, skills, attitudes and values to vocational education and training institutions, vocational education and training professionals and vocational education and training learners to develop a resource-efficient and sustainable society.

Purpose and Methodology

This toolkit provides a compilation of best practices, case studies and success stories that are currently being implemented in vocational education and training institutions. This toolkit focuses on three main areas that constitute the base for green approach: strategies,

pedagogical approaches, and skills/knowledge. This toolkit presents successfully implemented initiatives and aims to raise awareness of the innovative and positive best practices used among vocational education and training institutions and their leaders, trainers, and learners.

After gathering and assessing the requirements, intended end users of the toolkit and scope of the toolkit in the wider context of the project, CuiablueOÜ prepared both a desk and field research template for each partner to gather. Each project partner attempted to gather feedback from 5 vocational education and training institutions and 1 vocational education policymaker using the questionnaire provided (Annex I).

The questionnaire was presented to key stakeholders by partners at the first stakeholder consultation meeting to gather input, feedback and strategic guidance relating to the direction of the project and results. Following the feedback, the research templates and questionnaire were amended to reflect stakeholder input.

With the finalised desk and field research templates all partners gathered feedback from five VET centre staff and 1 local/regional/national vocational education policymaker at either local, regional, or national level.

Number and profile of respondents

Figure 1: Number of staff members in organisation per respondent
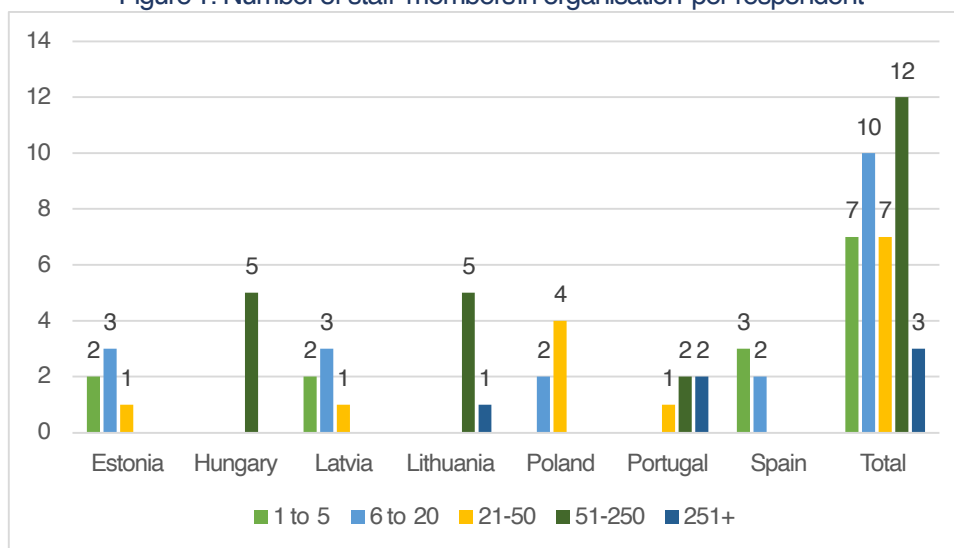
The responses reflect a broad range of different sized vocational education and training centres. Figure 1 shows a variety of number of staff in each of the centres involved in the research from across all partner countries. Figure 2 shows a relatively even split in the size of the centres involved.

Figure 2: Percentage of staff member numbers per respondent
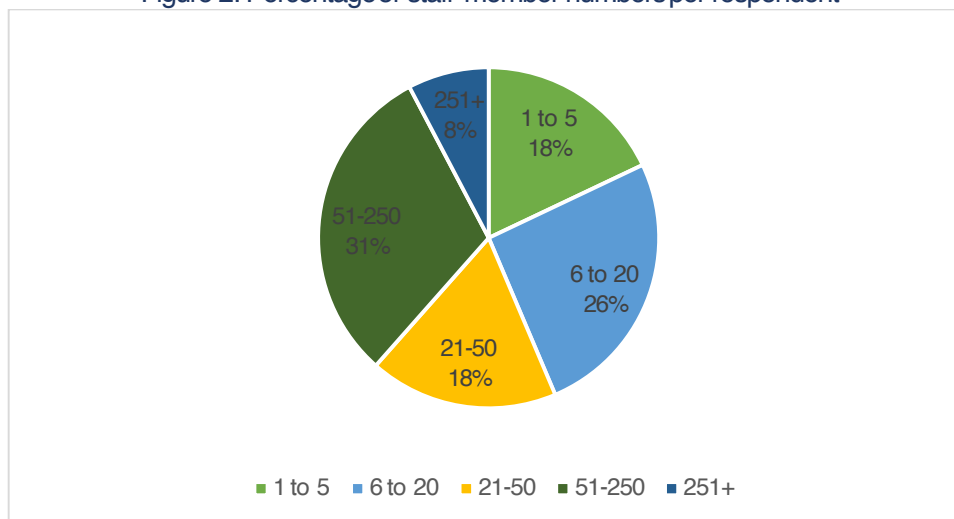
The number of learners per centre mirror the number of staff and are also even split by partner country and show a good mix of different sized vocational training centres.

Figure 3: Number of learners per centre by country
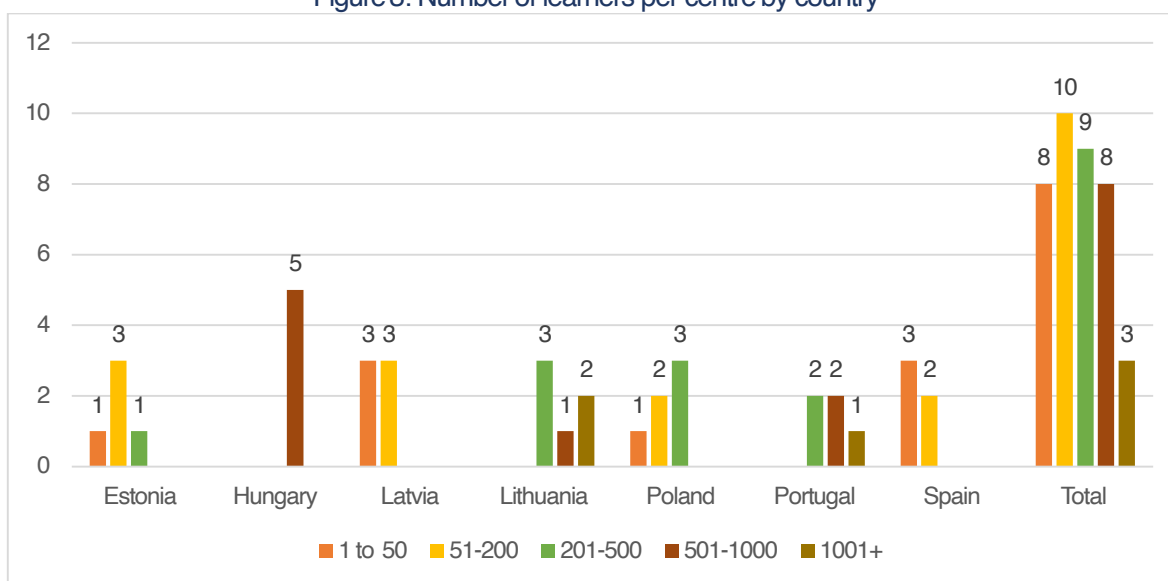
Figure 4: Percentage of learners per centre by number
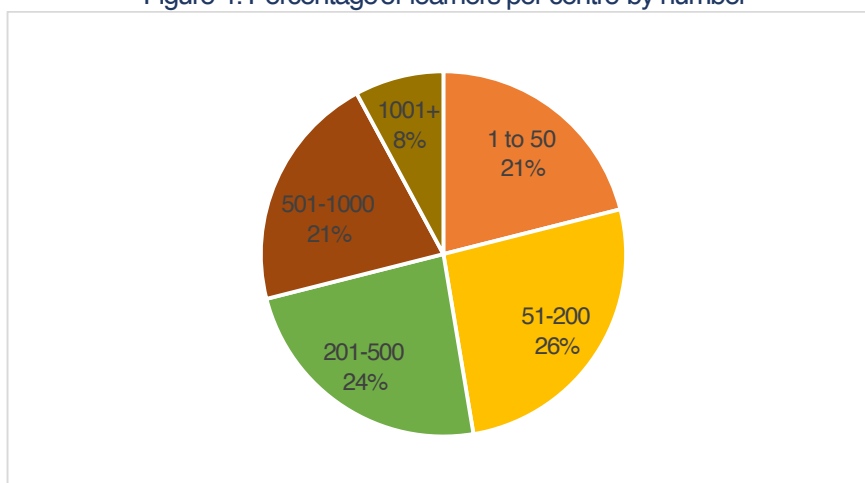
The summary of learner profiles is grouped together by most frequently occurring keyword and represented below. The larger the word the more times it was mentioned in responses. The general themes presented were that of modular vocational education and training being delivered in a variety of ways, including modular, full-time, and part-time. Most of the profiles include learners who are unemployed, and a smaller number which are employed. There is a wide variety of sectors the learners are working and studying in.

Figure 5: Summary of respondent learner profiles

Figure 6 shows the huge range of vocational training courses offered by the training centres which were involved in the research phase.

Figure 6: Summary of courses offered by respondents

Green skills and sustainable approaches among vocational education and training centres

Figure 7 shows the perceived level of green skills among vocational training centres at local, national, and regional levels according to the respondents. Local level appears to have the lowest overall level of green skills.

Figure 7: Existing level of green skills among vocational education and training centres
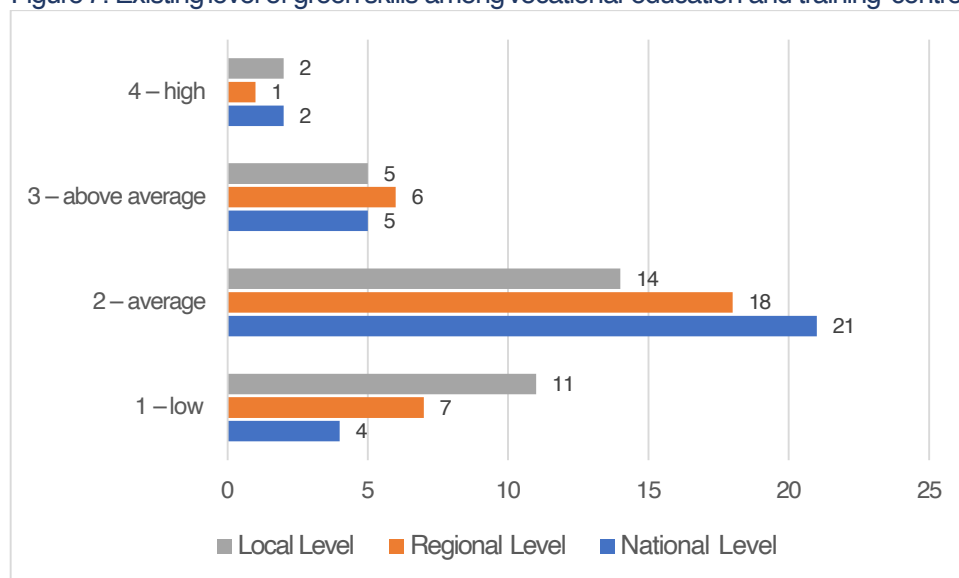
Figure 8 shows respondents' opinion on the level of sustainable approach within vocational training centres, split by stakeholder groups. Overall, students are deemed to have the lowest levels, staff next and leadership and management staff having the highest overall level. It is worth noting that many of the respondents fall in both staff and leadership stakeholder groups, and would likely judge their own level as higher than that of others.

Figure 8: Existing level of sustainable approach and green skills within education/training centre
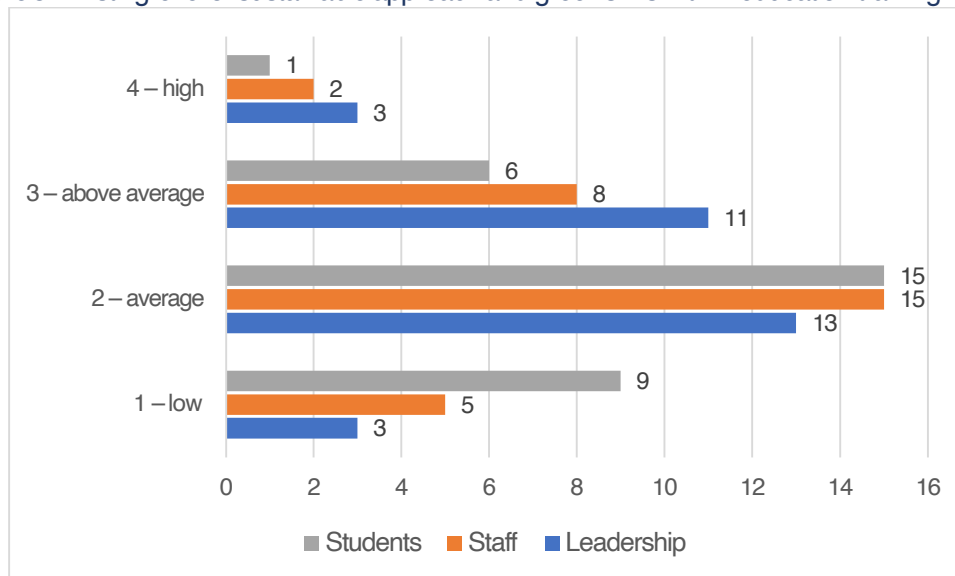
Figure 9, Figure 10, and Figure 11 show the overall level of sustainable approach by stakeholder group.

Figure 9: Level of sustainable approach and green skills among VET learners
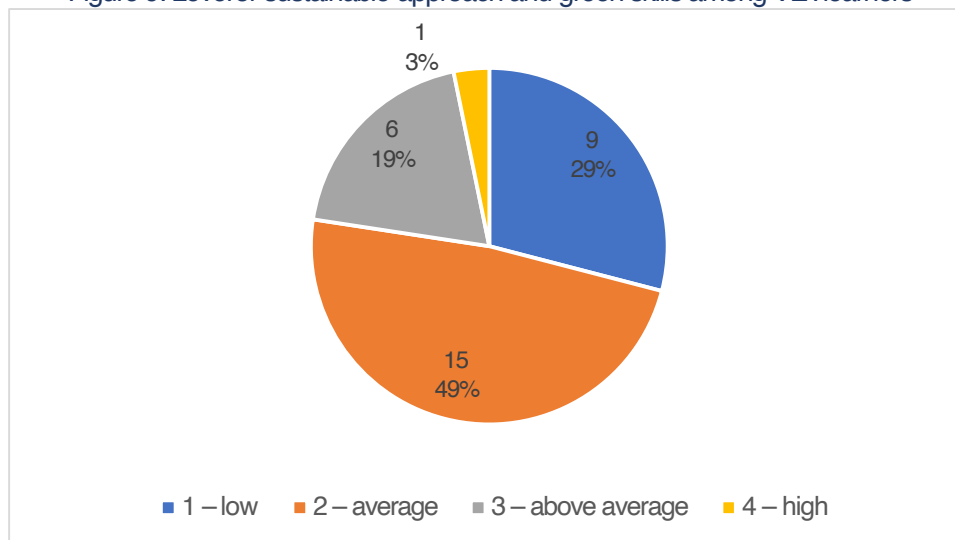
Figure 10: Level of sustainable approach and green skills among VET staff

- 1 – low
- 2 – average
- 3 – above average
- 4 – high
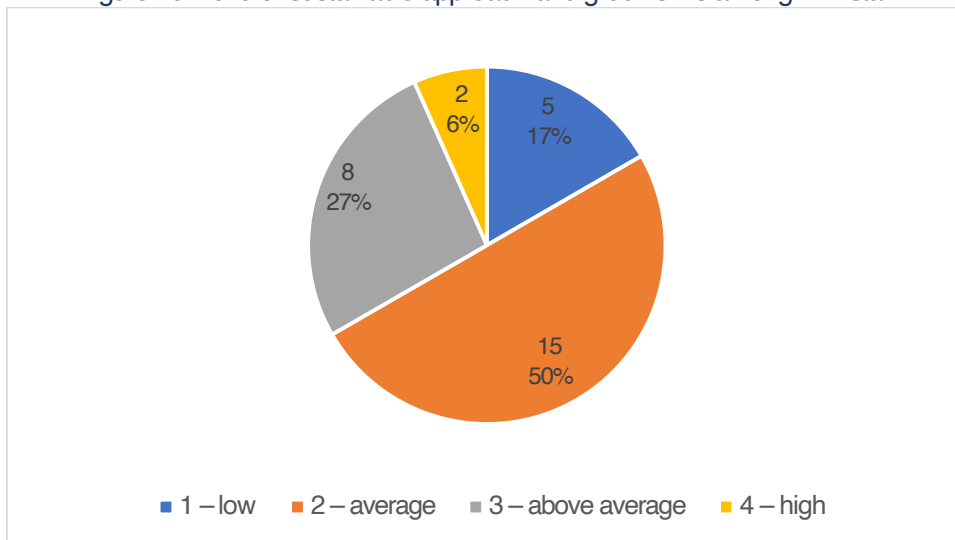
Figure 11: Level of sustainable approach and green skills among VET leadership

- 1 – low
- 2 – average
- 3 – above average
- 4 – high
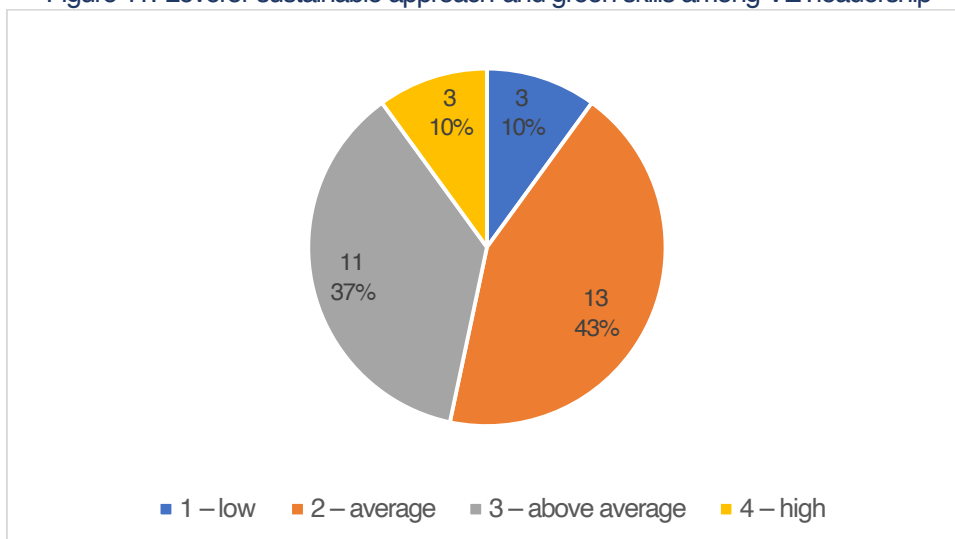
Respondents were asked to provide reasons and a qualitative narrative for their responses above, and the below word cloud summarises the key words in these responses. In general, respondents referred to their awareness, sustainable practices, their own opinion on progress being made within their centre and the information that is available on including sustainable approaches to vocational education and training.

Figure 12: Summary of reasons/narrative for above choices

Figure 13 shows a summary of the responses rating each area of sustainable practices within education/training centres. The sustainable practices and definitions provided to respondents are as follows:

- **Workforce and leadership**: approach to engaging and developing workforce in defining and delivering carbon reduction initiatives and broader sustainability goals.
- **Sustainable delivery**: considering carbon reduction opportunities in the way programmes are delivered and embedding net zero principles across all services.
- **Digital transformation**: using digital technology and systems to streamline service delivery and supporting functions and reducing carbon emissions.
- **Travel and transport**: reducing carbon emissions linked to travel and transport.
- **Estates and facilities**: reducing the carbon emissions arising from the organisation's buildings and infrastructure, including energy efficiency.
- **Food and nutrition**: reducing carbon emissions from the food made and served, including reducing food waste and locally and seasonal ingredients.

The key points to take from the responses are that respondents think they are doing well in terms of implementing sustainable practices within their centres, which as mentioned earlier, could be a reflection on the pride they have in their centre, their seniority or involvement in this part of the running of the training centre, or a general lack of awareness of how much improvement is possible within the European vocational training sector in general. Travel and transport and estates and facilities fared the worst, with food

and nutrition and digital transformation next. Sustainable delivery and workforce and leadership are ranked most favourably. Figure 14 shows an overall picture with almost half (49%) of respondents ranking their sustainable practices as average. If we consider that the average vocational training centre has a generally low level of sustainable practices, the results show a lack of awareness of what could be achieved through more dedicated environmentally focused strategies and policies within VET delivery.

Figure 13: Summary of ratings of each area of sustainable practices within education/training centres

Figure 14: Summary of ratings of each area of sustainable practices within education/training centres.

Part 1: Best Practices in implementing green strategies

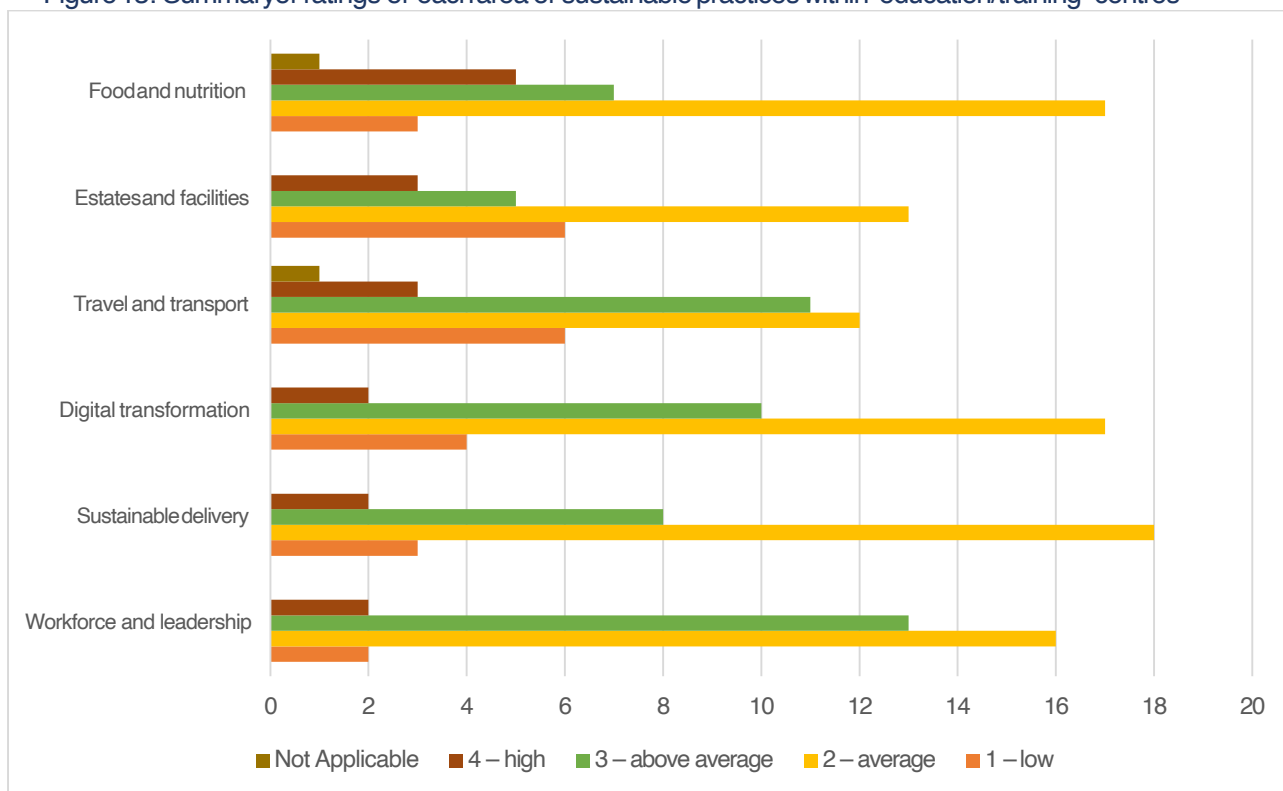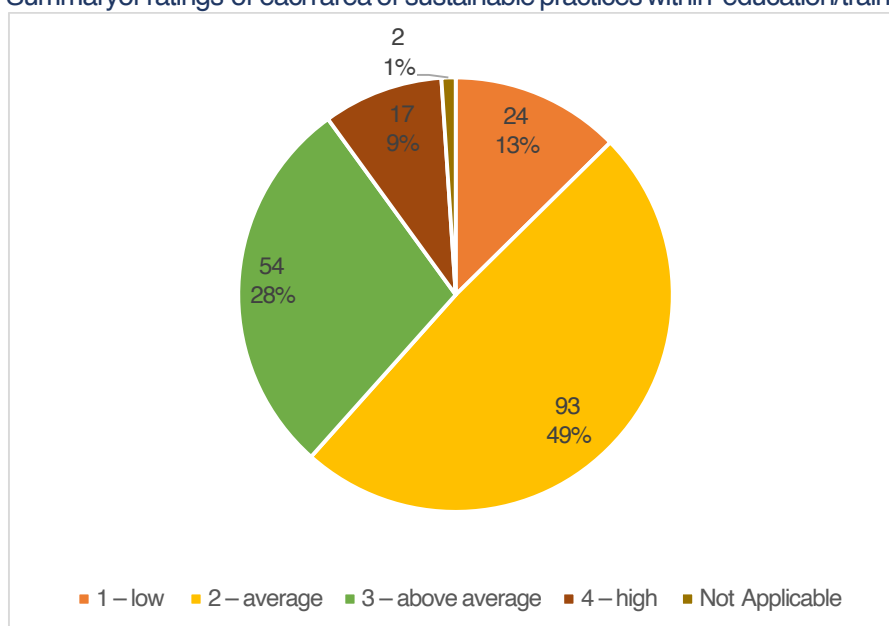The best practices in implementation of green strategies are synthesised below and incorporate the key findings from the research process.

Table 1: Summary of best practices in implementation of green strategies

	Benefits	Sustainable Practices	Challenges
Solar Panels	Long-term financial benefits, positive optics, practical example for learners	Estates and facilities	Cost and maintenance
Energy Efficient Boiler	Long-term financial benefits, practical example for learners, futureproofing	Estates and facilities	Cost and maintenance
Organic Land Management	Low waste, practical example for learners, environment focused, positive optics, provides further eco development opportunities	Estates and facilities, food and nutrition	Pedagogical adaptation, ideological barriers, stakeholder buy-in
Organic Composting	Low waste, practical example for learners, environment focused, positive optics	Estates and facilities, food and nutrition	Ideological barriers, stakeholder buy-in
Sorting and Recycling	Learner-led, practical example, immediate benefits, positive optics	Sustainable delivery, food and nutrition	Stakeholder buy-in
Energy Saving Policy	Immediate financial benefits, practical example for learners	Workforce and leadership, estates and facilities	Ideological barriers
Organisation Green Policy	Positive optics, environment focused, example to learners, professional development opportunities, long-term financial benefits	Workforce and leadership, sustainable delivery, digital transformation	Ideological barriers, pedagogical adaptation
Zero-Paper Policy	Long-term financial benefits, low waste, immediate professional development	Digital transformation, estates and facilities	Ideological barriers, stakeholder buy-in, pedagogical adaptation

The implementation of a **sustainable energy strategy** is recognised as a best practice in modernising the approach of the centre and can be implemented through several efforts which include but are not limited to:

1) installing and utilising **solar panels** in strategic positions at the training centre to contribute to or take over as the main source of electricity

2) modernising the boiler room through the installation of an **energy efficient boiler**, decreasing biofuel usage by 120%, and more **effective insulation** of the heating and ventilation equipment and distribution network (pipes, ductwork, etc.)

3) development of an **organic land management system** whereby no fertilisers are used, and more traditional, environmentally friendly farming techniques are employed to maintain the land

4) thermophilic **composting** of all organic waste, including grass, leaves, eggshells, etc. and are used to fertilise flower beds and vegetable patches

5) the **sorting and recycling** of household and domestic waste occurs at the point of disposal among centre staff and learners

It is not necessary to implement these measures jointly as they also provide benefits when implemented individually, and a step-by-step approach can be used to manage the change process. The measures outlined offer significant financial benefits through cost savings after any initial outlay required for equipment and infrastructure.

The implementation of an **energy saving policy** can cover a wide range of areas in which sustainability can be increased. This includes changing lighting to LED (light-emitting diode) bulbs, transitioning to digital resources and administrative systems, eliminating paper, and implementing energy-saving policies in computers. These changes involve significant initial costs and therefore are required to be executed by senior leadership.

In contrast, the implementation of an **organisational green policy** is considered a best practice as it aims to encourage a slow and organic change in mentality and the growth of green thinking within an organisation. This supports both the leadership and trainers to make more responsible decisions and sets a strong example of a strategic approach within an organisation which can trickle down to learners and staff. Our research found in organisations with a green policy highlighted:

1) heightened self-esteem among trainers, staff, and learners
2) opening of new opportunities
3) increased attractiveness as a place to study or work

The best practice of introducing a **zero-paper policy** can stimulate the training centre's communication channels to raise awareness among all the vocational education and training community regarding environmental protection. Such a policy also promotes the greater use of digital platforms, resources, and tools. This also encourages vocational training stakeholders including teachers and learners to gain digital skills to be able to use the new platforms, resources and tools which replace paper-based teaching.

Key Challenges

In general, each strategy faces all the following challenges to some extent, depending on the specific circumstances and organisational culture of the vocational training centre, leadership, trainers, staff, and learners. These key challenges can be summarised as follows:

1) **Cost** – initial outlay for equipment, infrastructure, and training can be challenging, particularly if centres have no access to external or additional funding.
2) **Ideological barriers** – these are often the most difficult to overcome and range from lack of comfort and familiarity with technology to a dismissive or distrusting approach to technological solutions to environmental issues.

3) **Pedagogical adaptation** – this includes incorporating green skills and policies, and new modules into existing curricula and is also linked to ideological barriers.

4) **Stakeholder engagement and adoption** – adoption of newly implemented strategies and technologies requires stakeholder engagement from the beginning of the process, which can often be difficult.

Part 2: Green Pedagogical Approaches

This section showcases best practices on green pedagogical approaches are used in the vocational education and training sector.

1) **Trainers as champions** – the practice of qualifying vocational training staff to be role models for sustainability, through a combination of awareness raising or pedagogical and experimental approaches, have continued to have a positive impact on training according to the feedback during research. Several vocational training centres highlighted that the role of trainers was essential to achieve intended outcomes among learners, and that without buy-in and proactive support and promotion from training and administrative staff, it would have been impossible to carry out these changes. The vocational education and training professionals have a huge role as supporters of the entire transition process, supporting the transformation of behaviours, supporting their learners to better adopt the digital work methodology.

2) **Trainer-led curriculum design** – a key part of successful implementation of green skills is to draw on trainers' specific competences and areas of expertise which support green skills, which can be achieved by allowing the trainers who deliver the curriculum input to design it. This also facilitates a natural process of the 'trainer as champion' approach as the trainer is invested in the programme or course they are delivering. Additionally, this allows trainers to deliver their own sustainability philosophy and impart their own environmental approach on learners.

3) **Innovative methodologies** – our findings highlighted that incorporating new ideas into existing programmes and courses can be greatly supported by using teaching methodologies outside of the usual pattern of learning. The types of innovative approaches, methodologies and activities brought by training centres as best practices include, but are not limited to:
   a. Thematic weeks at certain times of the semester or academic year, possibly to coincide with thematically relevant events
   b. Organisation of and drawing attention to non-formal learning opportunities such as out-of-school events, competitions, and study trips/visits.
   c. Demonstrating outcomes through practical, project and field-based examples, particularly of initiatives which have been successfully implemented at the vocational training centre where learners are studying, to showcase workshops

Alongside these new approaches, identifying existing, transferable skills which learners are familiar with and have already mastered, and can also be adapted into green skills, provides a strong starting point, and gives learners a head start. Another consistently highlighted best practice was to allocate additional funds (internal or external) to support both new, innovative, and traditional forms of vocational education and training to facilitate uptake and adoption of green skills.

Part 3: Case Studies

This third section presents a selection of case studies from within the vocational education and training sector.

Table 2: Ecological farming and sustainable waste processing practices case study

Organisation context:	201-500 students
Overview of the best practice:	Ecological farming and sustainable waste processing practices
Sustainable practices covered:	1. Electricity is used only from its own solar power plants 2. After modernizing the boiler room and installing an efficient boiler, biofuel consumption decreased by 1.2 times 3. Organic farming is developed (60 ha), i.e., no fertilizers are used, and the production is certified as "ECOLOGICAL" 4. All greens (grass, leaves, eggshells, etc.) are composted and then fertilized in the flower beds 5. Household waste – sorted
Green skills and competences applied/fostered:	N/A
Impact on leadership / governance:	Significant financial benefits are obtained, funds are saved
Impact on pedagogical staff:	Teachers felt directly because of past spending on electricity, biofuels, and so on. , now used for the purchase of teaching aids and equipment
Impact on learners:	Students feel this directly, see. "in the teachers' column"- because of past spending on electricity, biofuels, and so on. , now used for the purchase of teaching aids and equipment
Challenges faced:	Very complex/ difficult, as only one project received partial funding for 100 Kw solar power plant and the school currently has three power plants.
Potential for wider application:	Increase support for similar projects by prioritizing-installing for ones own (budget), then receiving at least partial compensation.

Table 3: Organization of in-school and out-of-school sustainability programs (Creation Protection Work Plan) case study

Organisation context:	Technical Vocational High school
Overview of the best practice:	Organization of in-school and out-of-school sustainability programs (Creation Protection Work Plan)

Sustainable practices covered:	Workforce and leadership
Green skills and competences applied/fostered:	Waste management- selective collection, zero waste, Sustainable thinking
Impact on leadership / governance:	None
Impact on pedagogical staff:	High
Impact on learners:	High
Challenges faced:	Funding good practice, developing school infrastructure, motivating children
Potential for wider application:	introduction of a work plan in all high schools

Table 4: Digitisation of learning and support materials

Organisation context:	VET provider with 20-50 staff and 500-1000 full time learners. It offers professional courses related with electrical infrastructures and facilities, logistics, hotel receptionist, aesthetic, and car mechanics.
Overview of the best practice:	The VET provider provides school manuals and other support materials through digital platforms, thus lowering the number of papers used.
Sustainable practices covered:	Digital transformation. Sustainable delivery.
Green skills and competences applied/fostered:	VET professionals and learners gained new digital competences and adapted to a paperless school.
Impact on leadership / governance:	Decrease of the total amount of paper used by the school, in all processes and classes, that eventually was going to be discarded.
Impact on pedagogical staff:	More than leadership/governance, VET professionals had a huge role since they were the ones helping their learners to get used to the new digital work methodology for paper use reduction. They were the ones who were behind the entire process and transformation of behaviours, supporting their learners to better adopt the digital work methodology without using paper.
Impact on learners:	Despite the initial challenges of the digital transformation in the way of learning, students rapidly adapted to the new methodology and saw the advantage of not going to school with too much school baggage since everything was digital.
Challenges faced:	At first, learners were not comfortable with the new digital work methodology, and, for some, it was not easy not having a physical school manual or other training materials in paper.
Potential for wider application:	Based on the efforts of the VET provider, it is believed that this good practice can be widely applied. However, for those other institutions they need to provide good internet access and more advanced technological equipment. This usually means more financial capacity for ensuring computers or tablets per learner.

Table 5: Zero paper policy

Organisation context:	VET provider with +250 staff and +1000 full time learners. It offers training in the areas of tourism and hospitality.
Overview of the best practice:	Zero-paper policy
Sustainable practices covered:	Digital transformation. Sustainable delivery.
Green skills and competences applied/fostered:	VET stakeholders such as teachers and learners had to gain digital skills to be able to use the new platforms that replaced paper-based teaching.
Impact on leadership / governance:	The zero-paper policy stimulated the VET provider's communication channels to raise awareness among all the VET's community towards environmental protection. It also promoted the greater use of digital platforms.
Impact on pedagogical staff:	VET professionals had to adapt to the zero-paper policy and restructure the learning contents and methods of their classes.
Impact on learners:	The zero-paper policy was quite challenging for learners, that needed to adapt to the new learning contents and methods.
Challenges faced:	The zero-paper policy was quite challenging for VET professionals, that needed to adapt their teaching methods, and learners, that needed to adapt to the new learning contents and methods.
Potential for wider application:	Based on the efforts of the VET provider, it is believed that this good practice can be widely applied. It is suggested that other institutions do a general auditory to identify what can be improved and the new practices that need to be implemented.

Table 6: Carbon footprint friendly travel

Organisation context:	It is an online training project. It has been offering face-to-face courses, blended and online courses for more than 40 years, and has trained more than 110,000 students, with a background of 4 million teaching hours behind it. Thanks to the relationship it maintains with the most important companies in this country, it acts as a bridge to the working world when they need qualified personnel, since many of its managers and part of its staff have been students of the organization.
Overview of the best practice:	What the organisation pointed out as a good practice is that when they have to travel for work to provide training in other communities or training courses for students, they do take into account the carbon impact.
Sustainable practices covered:	Travel and Transport
Green skills and competences applied/fostered:	Not provided
Impact on leadership / governance:	According to the organization, since it is not a practice per se, for the moment it hasn´t had a crucial impact on the organization's management.
Impact on pedagogical staff:	It has helped insofar as the professionals they travel with, as well as their students, take into account the footprint left by the use of transportation such as airplanes, unnecessary private transportation. The vast majority of transportation bookings take these factors into account.
Impact on learners:	According to the response, it has not directly influenced the students, but they will keep it in mind for future experiences.

Challenges faced:	They didn´t face any challenges.
Potential for wider application:	According to the organization, it is evident that local governments are currently working towards the implementation of sustainable practices in the training sector, however, for the proper integration of such approaches it is of vital importance that they explain in depth the usefulness and functioning.

Table 7: Integrating green skills into outdoor activity training

Organisation context:	It´s an organization whose main purpose is to design and organize guided physical-sports activities with groups in the natural environment. Maintain the necessary materials and equipment. Dynamize cultural and leisure activities. And guide groups and users through: Low and medium mountain itineraries, low difficulty caves and ravines, bicycle and equestrian itineraries, the natural aquatic environment in recreational boats, leisure, and adventure facilities, among others
Overview of the best practice:	Considering that the organization offers outdoor modules and are in constant contact with nature they stated, "we know the negative impact that these activities can have and the degradation of the environment that they can lead to." It is for this reason that in all training courses, they have subjects on the impact on nature, seeking awareness of the causal relationship that exists between the activities we teach and the consequences that can lead not only in terms of space but to biodiversity.
Sustainable practices covered:	Travel and transport, food and nutrition, workforce and leadership and sustainable delivery
Green skills and competences applied/fostered:	Not provided
Impact on leadership / governance:	Initially it was difficult to integrate new subjects, as well as to adapt the courses to environmental needs. Leaders had to consult with external agents to diligently implement the changes.
Impact on pedagogical staff:	The role of teachers has been essential. Without the involvement and proactivity of the staff, it would have been impossible to carry out these changes.
Impact on learners:	The most notable impact has been on the students. In the end, they are training future monitors of young children, so from this organization they offer them both sides of the coin, as they stated, "We also provide them with the means to carry out outdoor activities and entertainment without causing environmental damage."
Challenges faced:	They found it complicated because they had to change the entire educational program to be able to adapt the annual credits to the new subjects without having to dispense mandatory courses.
Potential for wider application:	To have a team of professionals who can offer ecological options that can be applied at home according to your needs.

Table 8: Flexibletraining delivery

Organisational Context:	The Xavier Professional School of Valencia, a non-profit organization, is an educational centre of social initiative, under public funding to ensure free or financial aid to avoid discrimination for economic reasons. We try to integrate into the school world those people who have fewer possibilities, avoiding any discrimination based on social class, economic situation, religious practice, political affiliation, or intellectual level.
Overview of the best practice:	The organization offers training formats to stimulate reflection on one's own sustainability behaviour and promote competencies for specific sustainable development regarding their own industry´s interest.
Sustainable practices covered:	Workforce and leadership, Sustainable delivery, Travel and transport, Food, and nutrition
Green skills and competences applied/fostered:	Not provided
Impact on leadership / governance:	According to the responses, it can be noticed that it didn´t have a noticeable impact. There were simply changes in the organization in terms of new content and personnel selection.
Impact on pedagogical staff:	The qualify their vocational training staff to be role models for sustainability (e.g. through awareness raising or pedagogical and experimental approaches).
Impact on learners:	These new practices continue to have a positive impact on training.
Challenges faced:	The integration of new modules, as well as the qualification of teachers, proved to be complex. However, they have all adapted quickly.
Potential for wider application:	There is still much room for improvement in both university and vocational training, although there are a few clearly aligned curricula. In the coming years, these plans will need to be better oriented. It is also essential to advance in parallel in the deployment of programs for the adaptation of workers.

Part 4: Facilitating green skills and knowledge

The best practices highlighted from stakeholder responses includes three general themes with key activities falling within them.

1) **Communication and promotion**, which includes talking about green skills and explaining that green skills and existing key skills and competencies are not completely different and share significant overlaps. Efforts to **educate naysayers and sceptics** is important to support wider adoption and ensure value is placed in green skills and overall environmental and sustainability goals - **evidence-based examples** and relatable case studies can support this approach. This can also be linked to local and regional examples which highlight and are linked to national and **European level green strategies** and plans, which significantly raise the level of awareness and knowledge of students about climate change and its potential impact on the world.

2) Identification and **focus on benefits realisation** provided by green skills, environmental awareness, and considerations of sustainability factors within vocation education and training programmes, sectors, and centres. In particular, the **focus on tangible non-financial benefits** is a key factor. Increasing support for and installing **small ecological projects** by prioritising training centre budgets, then receiving at least partial compensation, provides direct benefits realisation to the centre and learners.

3) Providing **opportunities for professional development** and support for teachers and trainers looking to undertake professional development linked to green skills and environmental sustainability facilitates green skills within the pedagogical staff and indirectly filters down to the learners. This supports the practice of trainers as champions. This can include teacher-led **curriculum development sessions** and linking with other European VET centres working towards the same objective to carry out peer-to-peer development opportunities and shared best practices.