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# GreenHive

GreenComp in Vocational  
Education and Training:

## **State of Art and Best Practices in Ireland**





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# List of Abbreviations

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<b>Abbreviation</b>	<b>Definition</b>
UN	United Nations
SDG	Sustainable Development Goals
VET	Vocational Education and Training
LCVP	Leaving Cert Vocational Programme
PLC	Post Leaving Cert Course
FET	Further Education and Training
ESD	Education for Sustainable Development
ETBI	Education and Training Board of Ireland
TUS	Technological University of the Shannon





## Introduction

Sustainability is the one of the most poignant topics today. With the climate crisis well and truly upon us, many have begun to depend on methods of living which lower the impact which we have on our planet. Sustainable practices are the key to improving the health of the climate and our lives. Therefore, sustainability is being integrated into every aspect of society, and none so prominent than in education.

In 2015, the UN (United Nations) established the SDG'S (Sustainable Development Goals) which are 17 individual areas of sustainability which must be a target for member countries to reach to become more sustainable. With goals such as 'Life on Land,' 'No Poverty' and 'Quality Education' specific areas of society can be directed to improvement using the targets established under each goal. These goals must be integrated into every aspect of life with particular emphasis on education.

Sustainability in education is a new idea, which has required a huge amount of change in syllabi and curriculums throughout Ireland. Throughout all levels of education, sustainability can be seen in many forms. However, to ensure sustainability in education, efforts must be made by policy makers, educators, students, and other stakeholders in education.

This report will evaluate how Ireland's educators and trainers integrate the sustainable competences of the GreenComp Framework into education throughout schools and educational organisations in Ireland. Using interviews with those involved in vocational education and a review of the policies implemented by the government, a complete picture of the state of sustainability in Vocational education can be seen.



## 1. The Green Hive Project

Green Hive is a Cooperation partnership in the Vocational Education and Training (VET) field co-funded by the Erasmus+ Programme of the European Union. Implemented by a consortium of five entities, such as the *Technological University of the Shannon: Midlands Midwest* (Ireland), the companies *Lascò* (Italy) and *Femxa* (Spain), and the non-profit and non-governmental organisations *KEAN* (Greece) and *Team 4 Excellence* (Romania), the project aims to increase the capacity of VET providers to prepare learners for the green transition by developing a **European platform-based ecosystem for sustainability education** called the "Green Hive".

The Green Hive will consist of localised hubs for sustainability education, namely the "Green Combs," established within VET providers. While the Hive will be an open and cross-sectoral long-term cooperation network dedicated to innovation, continuous improvement and co-creation in sustainability education, the Combs will make VET providers the managing centre of networks of local stakeholders (i.e., companies, representatives of universities, civil society organisations and professional associations) for learning, networking and cooperating on sustainability challenges.

Hence, the project promotes the establishment of permanent VET co-creation structures where students will be enabled to think in systems, understand the interconnectedness of the economy, society and environment, and ultimately develop their systemic and critical thinking competencies by collaborating with other students and external stakeholders.

Four **main results** will be co-developed with over 500 VET experts in the scope of the project:

- a "**Methodological Framework**" for developing a VET sustainability education ecosystem and localised hubs to facilitate the transfer of local experience, knowledge, and innovation in the field of the implementation of the **European Sustainability Competence Framework**



“GreenComp”<sup>1</sup>, and encourage collective actions of VET providers, learners, and external stakeholders to co-create solutions for sustainability;

- a "**Toolkit for the setup and management of Green Combs**", including a how-to guide and canvases to support VET providers in setting up, managing, and growing internal hubs for sustainability education;
- "**Educational resources for Green Combs**", including guidelines to implement open spaces for discussion around learner-generated topics among members of localised hubs, micro-learning videos, workshop scenarios and project-based learning experiences in the four competence areas of the GreenComp;
- the "**Green Hive**" **platform**, connecting the hubs through the Internet and providing capacity-building opportunities and digital tools for VET institutions, knowledge-transfer spaces, and co-creation activities for its members. By the end of 2025, the Green Hive is expected to host and connect at least 15 localised hubs and 200 VET learners in 5 countries.

Project website: [www.greenhiveproject.eu](http://www.greenhiveproject.eu)

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<sup>1</sup> Bianchi G., Pisiotis U. & Cabrera M. (2022). GreenComp The European sustainability competence framework, Punie, Y. and Bacigalupo, M. editor(s), EUR 30955 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-46485-3, doi:10.2760/13286, JRC128040.



## 2. Sustainability Education in Vocational Education and Training: The Irish Context

Vocational education offers opportunities to a hugely diverse range of individuals such as adults seeking to increase their skill set to improve their employability aspects, those who wish to gain access to skills needed in the labour market and others who will use their vocational education to access higher education<sup>2</sup>. In Ireland, vocational education is not clearly defined as a single institution but more a cooperative relationship between many education providers and fields<sup>3</sup>. Standalone vocational education institutions were established in the early 1900's as a means of boosting the education of craft skills such as architecture, technological studies, and engineering. Participants consisted of youths from a working-class background who entered the workforce when finished primary school. This demographic incurred a social stigma vocational education, however, in the 1960's vocational education curricula were introduced into post-primary schools thereby reducing the biases placed on them<sup>3</sup>.

Modern day vocational education still retains some of the stigmas placed on them from previous years, however, today, vocational education has gone through many changes. These changes include name changes and syllabus changes. Despite this, much of the courses have remained the same. These courses have remained male oriented, much as they were throughout history and have continued to be directed at the less academically inclined.

Official vocational education in second level education is offered through the Leaving Certificate Vocational Programme (LCVP)<sup>4</sup>. This programme runs concurrently with the main

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<sup>2</sup> OECD (2020) 'Education at a glance 2020', available: <https://www.asti.ie/document-library/education-at-a-glance-2020-ireland-report/> [accessed 13th July 2023]

<sup>3</sup> McGarr, O., Lynch, R. (2021) 'Analysing the construction of 'sustainability' in lower secondary school technology syllabi in Ireland' available: <https://doi.org/10.1080/13504622.2021.1903837> [accessed 13th July 2023]

<sup>4</sup> Citizens Information (2023) 'Leaving Certificate Vocational Programme', available: <https://www.citizensinformation.ie/en/education/state-examinations/leaving-certificate-vocational-programme/> [accessed 13<sup>th</sup> July 2023]





Leaving Certificate, however additional subjects are offered to LCVP students. A student may wish to take on extra studies in work preparation, enterprise studies and employment experience, along with main subjects such as maths, English, Irish (and one other continental language), geography, history, etc. Following on from the Leaving Certificate, a student can enrol in a Post Leaving Certificate Courses (PLC), which aims to develop a student's technical and vocational and practical skill set<sup>5</sup>. Adults who wish to re-enter education are also invited to take part in PLC on the basis that they have sat a Leaving Certificate.

They are also an opportunity into higher education and offer a taster for subjects' students may wish to pursue. In line with past vocational education, these courses are offered in second level schools, colleges, and local centres for education.

Green Schools and Green Campus is an initiative which aims to bring everyday sustainable practices into education settings. This includes the provision of sustainable facilities and introduction of sustainable ideologies into education. Available to all levels of educational institutions, Green Schools encourages students to work toward a sustainable goal with a reward of a recognised certification upon completion of the green school's initiative. Sustainability practices include energy and water conservation, waste reduction and recycling, and participation in biodiversity initiatives<sup>6</sup>.

Green Skills for Further Education and Training (FET) is a document which sets out the key aspects of the need for the development of skills to encourage a green economy in the future informed by the Osnabrück Declaration on Vocational Education and Training, Green Skills

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<sup>5</sup> Citizens Information (2023) 'Post Leaving Certificate (PLC) courses', available: <https://www.citizensinformation.ie/en/education/vocational-education-and-training/post-leaving-certificate-courses/> [accessed 13th July 2023]

<sup>6</sup> An Taisce- Green Schools (2023) 'Working Together For a Sustainable Future', available: <https://greenschoolsireland.org/> [accessed 13<sup>th</sup> July 2023]

Solas (2022) 'Green skills for FET 2021- 2030' available:



for FET 2021- 2030, outlines the key aspects of green skills and green skills place in a sustainable society<sup>7</sup>.

FET (Further Education and Training) provides learners who are unemployed or wish to upskill with traineeships and training courses with the opportunities and resources needed to achieve in their preferred field<sup>8</sup>. Solas, an agency operating under the Department for Further and Higher Education, Research, Innovation and Science, manages a wide variety of Further education programmes, which aim to provide courses for adult learners wishing to upskill and succeed in the labour market. To create green skills in FET, education on climate and sustainability is required, and training of those working in construction on green technologies is also provisioned in the strategy. Finally, the objective of the strategy aims to deploy a plan to encourage the creation of jobs in the green economy.

ESD to 2030, the second national strategy on education for sustainable development is a plan to introduce sustainability education into the wide variety of education setting in Ireland. Put forward by the Minister for Education, Minister for Further and Higher Education, Research, Innovation and Science, and Minister for Children, Equality, Disability, Integration and Youth<sup>9</sup>. The strategy aims to aid in the provision of supports given in education to direct the sector to a more sustainable future to 2030. With cross level and institutional input, primary, secondary, third level and continued education organisations will stride towards increasing and developing their sustainability education. Vocational education is mentioned as a target

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<sup>7</sup> <https://www.solas.ie/f/70398/x/06922e8fb4/greenskills-for-fet-2021-2030.pdf> [accessed 13th July 2023]

<sup>8</sup> Citizens Information (2023) 'Further Education and Training (FET) training courses', available: <https://www.citizensinformation.ie/en/education/vocational-education-and-training/training-courses/> [accessed 13<sup>th</sup> July 2023]

<sup>9</sup> Government of Ireland (2022) 'ESD to 2030: Second National Strategy on Education for Sustainable Development', available: <https://assets.gov.ie/228330/c69895a6-88f0-4132-b6d1-9085a9c31996.pdf> [accessed 13<sup>th</sup> July 2023]



which aims to create equal opportunities for all who wish to enter vocational and higher education<sup>10</sup>.

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<sup>10</sup> Government of Ireland (2022) 'ESD to 2030: Implementation Plan 2022- 2026' available: <https://www.gov.ie/pdf/?file=https://assets.gov.ie/228358/86ea1f5f-ff88-45f0-8ee5-270997007db1.pdf#page=null> [accessed 13<sup>th</sup> July 2023]



### 3. GreenComp: State of the Art in Ireland

State of the Art Research consists of conducting interviews with those involved in the role of Vocational Education and Training to develop an understanding of how the GreenComp sustainability competences are integrated into Vocational Education and Training courses. This qualitative research will help to inform the provision of suitable mention of the GreenComp Framework in policy, courses, and curricula.

#### 3.1 Research Methodology

##### 3.1.1 Research Strategy

The research strategy employed in this study a mixed-methods qualitative approach, combining desk research with interviews with Vocational Education and Training (VET) experts to investigate the integration of sustainability competencies in the Ireland VET sector.

##### 3.1.2 Data Collection Method and Tools

For this research, document analysis and semi-structured interviews were used. Particularly, the **document analysis** involved the revision of national educational guidelines, policy documents, curricula, syllabi, and research studies, to address the following research questions:

- a. What are the current practices and policies for developing GreenComp sustainability competencies in VET in the country?
- b. How do national educational guidelines address integrating sustainability competencies in VET curricula and courses?
- c. What government policies and initiatives are in place to promote the development of sustainability competencies in VET?
- d. To what extent are sustainability competencies integrated into the country's VET curricula and syllabi?



In addition, **semi-structured interviews** were conducted with VET experts to gather their perspectives on sustainability education in the national VET system. A semi-structured questionnaire was used as an interview guide for the researcher. Certain predetermined questions were prepared to guide the interviews and ensure that the research objectives were addressed. However, additional questions arose during the interviews as unexpected insights and information emerged. Some sample questions that were included in the semi-structured questionnaire were the following:

- a. How do you perceive the current practices for developing sustainability competencies in VET in your country?
- b. What are the strengths and positive aspects of the existing approaches and practices for sustainability competencies development in VET?
- c. What are the weaknesses and limitations of the current practices for sustainability competencies development in VET?
- d. What challenges and barriers do VET experts encounter in the implementation of sustainability competencies in VET programs?
- e. What opportunities and potential benefits do VET experts identify in developing sustainability competencies in VET?
- f. How do VET experts assess the effectiveness and impact of the current practices for sustainability competencies development in VET?
- g. What resources, support, and infrastructure are necessary to enhance the development of sustainability competencies in VET?
- h. How do VET experts perceive the level of awareness and commitment among VET stakeholders towards sustainability competencies?
- i. What innovative approaches or strategies do VET experts suggest for further advancing the development of sustainability competencies in VET?
- j. What collaboration and partnership opportunities exist or should be fostered to enhance the development of sustainability competencies in VET?



- k. How do VET experts envision the future of sustainability competencies in VET, considering the evolving needs and trends in sustainable development?

### **3.1.3 Sample Selection**

The research utilised purposive sampling, a type of non-probability sampling technique, to establish the sample for the study. In accordance with this approach, individuals were selected based on their knowledge, relationships, and expertise related to the research topic (Freedman et al., 2007). For this study, sample members were chosen due to their direct involvement and experience in the phenomenon being investigated, as well as their significant work background in vocational education and training and active participation in sustainability education.

### **3.1.4 Data Analysis**

The data collected from the desk research and interviews were subjected to qualitative data analysis techniques. Thematic analysis was employed to identify recurring themes, patterns, and insights related to the integration of sustainability competencies in VET. The findings were organized, interpreted, and presented in this research publication, contributing to the understanding of current practices, challenges, and opportunities in sustainability education within the VET system.

### **3.1.5 Ethical Considerations:**

Informed consent was obtained from all participants, clearly outlining their voluntary participation in the research and their freedom to withdraw from the study at any point and for any reason. The objectives of the study were thoroughly explained to participants, and they were assured that their responses would be treated confidentially and solely used for academic purposes specific to this research. Moreover, the study ensured that participants were not subjected to any physical or psychological harm. On the contrary, researchers strived to create and maintain a comfortable environment throughout the research process.



### 3.1.6 Limitations

This research had the following limitations:

- a. The size of the sample for the interviews was small – 15 participants. A bigger sample would enhance the reliability of the research;
- b. The findings represent the perspectives and practices within the specific country, and generalisation to other contexts should be done cautiously;
- c. The research relies on self-reported information from VET experts, which may be influenced by individual biases or limited awareness of practices outside their immediate scope;
- d. Sustainability education in the country may be influenced by factors which were not mentioned in this research.

### 3.2 Sustainability competencies in Irelands formal education system: recent evolutions of the Country's educational policies

Sustainability has been increasingly incorporated into Ireland's education system gradually over the past number of years. Prompted by the universally acknowledged need to ensure sustainability is indoctrinated to education systems. The Irish education system has taken on changes to curricula to allow for sustainability to be more widely implemented. ESD to 2030 is a Framework which aims to increase the contribution of the education sector to a more sustainable future by 2030. Impacting all levels of education from primary to secondary, tertiary, and further and vocational. One of the main objectives of the ESD to 2030 strategy is to ensure sustainability practices are rooted into government policy and practices in the future. However, there is currently limited information on the prospect of government policy directing sustainability education in Ireland. Despite this, ETBI (Education Training Board Ireland) encourage the uptake of sustainability competences in education through initiatives such as Take 1 which aims to embed the UN SDGs (Sustainable Development Goals) in education by students, educators, and trainers.



### 3.3 Experiences from the field: interviews with VET experts

TUS contacted several individuals and organisations involved in VET education. With a total of 16 interviews conducted, an idea of the state of sustainability in education in Ireland was formed.

#### 3.3.1 Composition of the group

The group was composed of 10 trainers and 6 teachers working in Upper-secondary (12.5%), Continuing (56.25%) and post-secondary (31.25%) VET. A low percentage of the respondents (12.5%) had previous knowledge of the GreenComp Framework, while 87.5 (14 respondents) had no previous knowledge of the GreenComp Framework.

#### 3.3.2 Summary of the findings

Vocational Education in Ireland is an essential element to the introduction of sustainability competences in Ireland. Therefore, through conducting a total of 16 interviews with VET experts across Ireland, a clearer picture of the extent to which the Green Comp sustainable competencies are being implemented in education may be analysed.

Q1	How do you perceive the current practices for developing sustainability competencies in VET in Ireland?
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Participants of the interviews replied with varying opinions on the current practices of sustainability competencies. When asked how they believe sustainable competences were being developed for VET in the Irish education system, experts in the field felt a wide range of opinions.

- Almost 50% of the respondents felt that there was a disjointed approach to the rollout of the sustainable competencies. With more of an emphasis on long term courses, a greater drive to integrate sustainable competences into short term courses or micro qualifications may aid in the integration of sustainable competences into VET.
- 4 out of 16 respondents recognised the increasing work being done to develop the field and are willing to engage in the work. An increase in the discussions around





sustainability are evident, however, much of the work being carried out is done so by individuals, preventing a united approach to the subject.

- A disparity between the types of courses which take on sustainable changes was noted with courses such as apprenticeships experiencing a lesser traction to sustainability compared with longer, more class-based learning. While in many courses' sustainability competences may be taught, they are not implemented into the running of the course. It was also noted that while the integration of sustainability competences into VET is increasing, the difficulty of this task into existing and fully operational curriculum is particularly difficult.

Q2

Based on your experience, which activities do you think have been most effective in Ireland in raising awareness and attention towards the development of these competences in VET?

There are many strengths and positive aspects in sustainability education in vocational education and training currently in Ireland.

- 56.25% of respondents noted the developing interest among the educational community. Experts have attributed the strengths of sustainability in education to changes in the overall thought process of educational stakeholders and a deeper understanding of sustainability.
- Experts also noted how sustainability education is developing awareness of the climate crisis and the need to further sustainability education in Ireland with 18.75% of experts relating the current state of the environment as a turning point for the future of sustainability education in Ireland.
- Experts believe the new emphasis on sustainability in the field of education has allowed a greater space for innovation and thinking. With “new ideas” and “innovative projects becoming centralised in education the benefits of sustainability in education can be utilised.

Q3

What are the weaknesses and limitations of the current practices for sustainability competencies development in VET?





There are many limitations and weaknesses that have been identified in the Irish vocational education system.

- 50% of respondents believe the greatest weakness in sustainability education and training comes from a lack of resources diverted to the rollout of sustainability education in VET. The resources most lacking are funding sources for sustainability education and dedicated training for educators, tutors, and teachers.
- When planning to implement sustainability competences, weaknesses such as a lack of accessibility to information for educators can be a barrier to delivery. It was also noted that there is a need to change the language used to describe sustainability and must be adapted at a 'grassroots' level to allow for greater uptake and participation from educators.
- An inability to change curricula has been observed by experts. Concern over an inability to shift to change the expected learning outcomes from curricula in education to allow greater involvement of sustainability education, has inhibited the teaching of sustainability competences in Ireland's education system. 18.75% of experts attribute the slow pace of change to these weaknesses.
- Only 6.25 of respondent felt there were no weaknesses that needed to be addressed.

Q4

What challenges and barriers have you met to the implementation of sustainability competences in education and training?

Despite the range of strengths and weaknesses addressed by the experts, recognition of the challenges faced in the field are also prevalent.

- Experts believe a lack of meaningful change is resulting in challenges to the rollout of sustainability education in VET. 18.75% attribute this lack of meaningful change to the slow development of sustainable competences in VET and a lack of uptake.
- A lack of vital resources is also eminent from experts in Vocational Education. A lack of tutors and educators, funding and vital resources used in education are also prominent concerns among 31.25% of respondents.



- 25% highlighted the lack of interest and awareness as an obstacle to sustainability education in VET. With a lack of awareness from staff, students, and the public alike, interest and understanding has posed a serious challenge to the movement to a more sustainable education environment in the future

Q5

What opportunities and potential benefits do you identify in the development of sustainable competences in education and training?

It is undoubtedly vital to recognise the opportunities and potential benefits which can be provided by the inclusion of sustainability into education.

- Each of the experts have expressed a different view of the opportunities and benefits which they perceive as key to education for sustainable development. Approximately 38% of experts suggested that having opportunities to learn by example and/or through activities would increase awareness of sustainability competences.
- Encouraging policy and policy makers to move toward making sustainability a cornerstone of educational policy and reform was highlighted by several experts. Allowing policy to influence the change of curriculum would encourage growth in the topic and increase its popularity, cementing its place in formal and informal education.
- An increase in the prospects of those which learn in a more sustainability focused environment may also lead to greater prospect in the workforce. Ensuring the workforce remains “up to date” can ensure an increased quality of life among staff and students going forward.

Q6

How do experts in education and training assess the impact and effectiveness of the current practices for sustainability education in education and training?

To ensure the sustainability education system remains relevant current practices must be reviewed.



- Over half of the respondents were not aware of any formal systems in place to evaluate effectiveness of the current sustainability practices in education in relation to curricula or management of sustainability.
- Of the types of systems used for assessments of sustainability respondents relies on a variety of tools. A reliance upon their own sources of reflection through the utilisation of 'Feedback loops,' surveys, program evaluations were essential.
- To analyse further afield, a dependence on reading into external reports was required. However, this method of evaluation does not truly identify the use of sustainable competences within any one organisation.

Q7

What resources support and infrastructure are necessary to enhance the development of sustainability competences in education and training?

Going forward, changes will be required to enable the wider use of sustainable competences in VET. Resources, support, and infrastructure are vital to aid in sustainable development.

- 62.5% of respondents felt that staff and tutor training was the most important part of enhancing the development of the sustainability education process going forward. Ensuring the educators are sufficiently knowledgeable of the needs of sustainability education allows for a leaching of information to students.
- 37.5% of experts reported funding was of greatest importance. Funding coupled with training was noted by 3 out of 16 of respondents highlighting the importance of the combined enhancement of both resources.

Q8

How do education experts perceive the level of awareness and commitment among education and training stakeholders towards sustainability competences?

To ensure sustainability in education is utilised to its full potential, stakeholders must be committed to amending their practices and develop an awareness of its necessity.



- 50% of the experts believe awareness is growing and that individuals are committed, noting the growing public interest and push toward a sustainably sound education structure. The experts recognise the interest in its growth; however, it is also highlighted that a lack of a system for gauging awareness is detrimental to gaining a full view of the situation.
- 12.5% of interviewees were unable to recognise any awareness or commitment from education stakeholders to the growth of sustainability competences in education, while 18.75% believed there was a complete lack of awareness and commitment among education stakeholders.

Q9

What innovative approaches or strategies do education experts suggest for further advancing the development of sustainable competences in education and training?

When questioned about the innovative approaches which may be used in the development of sustainable competences in Ireland's education system, experts portrayed a varying range of outcomes.

- 18.75% of experts expressed the need for a greater push for induction of sustainable competences into micro or short-term qualifications allowing greater accessibility to sustainability education for a greater audience. Increasing sustainability education in short term educational programmes would ensure a larger cohort of students can access quality education with an emphasis on sustainability.
- 37.5% of interviewees highlighted the need for greater collaboration and communication in the roll out of sustainable competences across several organisations and sectors. Collaboration with the community, both national and international are essential, while connectivity to increase inclusivity was also remark on. Connectivity and collaboration with industry and businesses would allow for greater engagement from a larger cohort while allowing students and industry to gain practical sustainability experience.



- 18.75% would promote the necessity of increased training for educators and tutors as a method of innovation in the future. Ensuring educators remain informed of changes to sustainability practices and new innovations is essential to the uptake of sustainability competences in Vocational Education.

Q10

What collaboration and partnership opportunities exist or should be fostered to enhance the development of sustainability competences in education and training?

- When asked what collaboration and partnership opportunities exist or should be fostered in the development of sustainability practices in VET, 69% of respondents indicated that working with other members of the educational community would benefit sustainability education. Members of the community included ETB'S (Education and Training Boards), The Department for Education, other VET tutors, and other Higher Education institutions.
- Collaboration with the EU, the Cities Learning Network, and Policy makers were all indicated to be helpful prospective collaborators.
- Collaboration with local businesses and industry is also a key theme indicated by experts. 25% of interview respondents believe working with businesses in the local community would be of benefit to the enhancement of sustainable competences in education and training.

Q11

How do education experts envision the future of sustainability competences in education and training, considering the evolving needs and trends in sustainable development?

As we go forward, the future of sustainability will change drastically in all measures of society.

- The experts in the field of education have expressed their understanding that the topic will continue to grow and develop. 56.25% of interviewees envisage that through continued renewal of policy and curricula and building on communication,



sustainability competences in education could, as one expert quoted, “become the norm.”

- 7 out of 16 experts emphasised the need for continual improvement and development, particularly around the continued review and evolution of practices to ensure lasting modernity. While growth is foreshadowed, the expression of the need to improve is also noted. Increases in flexibility, communication and integration would be welcome by experts.
- 12.5% of experts would like to see these teachings become embedded in all education going forward. One expert noted the possible use of sustainable competences in the Education for Sustainable Development Plan to 2030 as a means of ensuring competences are used across the education sector.



## 4. Developing sustainability competences: Best practices in Ireland

This chapter presents Irish best practices in developing the GreenComp sustainability competencies. The following criteria guided the selection of the best practices:

- **Effectiveness:** The extent to which the practice has demonstrated positive outcomes in developing sustainability competencies among VET learners, such as improved knowledge, skills, and attitudes towards sustainability.
- **Inclusiveness:** The practice's ability to cater to diverse learners, including individuals from different socio-economic backgrounds, genders, ethnicities, and abilities, ensuring equitable access and participation in sustainability competencies development.
- **Innovation:** The degree of creativity, novelty, and originality exhibited by the practice in its design, implementation, and delivery of sustainability competencies development in VET, incorporating innovative approaches, methods, or technologies.
- **Transferability:** The potential for the practice to be adapted, replicated, and scaled up in different VET contexts and settings, considering factors such as feasibility, adaptability, and compatibility with varying institutional and cultural contexts.
- **Impact:** The impact of the practice on learners' ability to apply sustainability competencies in real-world contexts, as well as its potential to contribute to broader societal and environmental goals.
- **Scalability and Replicability:** The potential for the practice to be scaled up and replicated in other VET systems, considering factors such as scalability, cost-effectiveness, and practicality.

### 4.1 [Water Ambassador]

<b>Water Ambassador</b>	
[2022-2023]	<b>Author(s):</b> [Green Schools]





Element	
<b>Goals</b> of the best practice	<i>The aim of this project is to engage with second level students to educate on the topic of water conservation, water treatment and the aquatic environment. This knowledge will then be passed on to members of the school community and beyond.</i>
<b>Target Group/Beneficiaries</b>	<i>Second level students</i>
<b>Needed resources</b>	<i>Networking sessions/ Progress Reports/ Community Consultations</i>
<b>Methodology</b>	<p><i>To begin the process, ambassadors must attend a training day. At this session, students will take part in an information seminar, followed by a few group exercises to discuss the topic of water conservation and treatment.</i></p> <p><i>A whole school assembly is then held to inform the ambassadors classmates of the actions taken and information required to inform on water conservation and treatment and the aquatic environment.</i></p> <p><i>Another training day will then take place with the other water ambassadors.</i></p> <p><i>The ambassadors will then take part in a site visit to a water treatment facility to gain real life experience in the field of water treatment. After this a beach clean-up is organised for students and ambassadors.</i></p> <p><i>Finally, the ambassadors will host an event in their school to help raise awareness for water treatment, conservation, and the marine environment.</i></p>
<b>Success Factors</b>	<i>To ensure the project was a success, several factors must be included. Events such as training days, site visits and networking events are essential to the success of the project. This requires participants to engage with the wider community as well as their own colleagues and classmates.</i>
<b>Competences of the GreenComp addressed</b>	<ol style="list-style-type: none"> <li>1. Promoting Nature</li> <li>2. Systems Thinking</li> <li>3. Problem Framing</li> </ol>



	<ol style="list-style-type: none"> <li>4. Future Literacy</li> <li>5. Collective Action</li> </ol>
Related <b>Resources</b> / <b>Link</b>	<a href="https://cleancoasts.exposure.co/what-being-a-water-ambassador-means-to-us">https://cleancoasts.exposure.co/what-being-a-water-ambassador-means-to-us</a> <a href="https://greenschoolsireland.org/water_ambassadors/">https://greenschoolsireland.org/water_ambassadors/</a>

#### 4.2 [Let's Fix Fashion]

Let's Fix Fashion	
[2021]	<b>Author(s):</b> [Green Schools]
Element	
<b>Goals</b> of the best practice	<i>This project aims to encourage students to change their fashion habits for the better. In doing so, students will learn about the circular economy and sustainability of the fashion industry.</i>
<b>Target Group/Beneficiaries</b>	<i>The demographic of people this project is aimed at are those in post primary education.</i>
<b>Needed resources</b>	<i>The resources required to allow this project to operate are items such as used and preloved clothes, shoes, and other material items. A knowledge of the concept of the circular economy is also required. The access to funding and tools is essential to allow this project to move forward also.</i>
<b>Methodology</b>	<i>The Green-Schools Lets Fix Fashion Project will consist of four online events and tasks based on themes such as the circular economy, sustainable materials, and upcycling. Other events that take place throughout the process is the screen of ethical fashion documentaries and invoking discussion points around ethical fashion The project will culminate in an end of year live Catwalk event that participating schools are in with a chance of attending.</i>



<b>Success Factors</b>	<i>Social occasions such as networking events are vital to this project to allow for communication between participants, along with Team working sessions to encourage contribution.</i>
<b>Competences of the GreenComp addressed</b>	<ol style="list-style-type: none"> <li>1. Valuing Sustainability</li> <li>2. Systems Thinking</li> <li>3. Critical Thinking</li> <li>4. Problem Framing</li> <li>5. Future Literacy</li> <li>6. Exploratory Thinking</li> <li>7. Collective Action</li> </ol>
<b>Related Resources /Link</b>	<a href="https://greenschoolsireland.org/projects/lets-fix-fashion/">https://greenschoolsireland.org/projects/lets-fix-fashion/</a> <a href="https://greenschoolsireland.org/wp-content/uploads/2021/11/PX4322-Fast-Fashion-Fact-Sheet-V2.pdf">https://greenschoolsireland.org/wp-content/uploads/2021/11/PX4322-Fast-Fashion-Fact-Sheet-V2.pdf</a>

### 4.3 [Junk Kouture]

<h2>Junk Kouture</h2>	
[2023-24]	<b>Author(s):</b> [Junk Kouture]
<b>Element</b>	
<b>Goals</b> of the best practice	<i>The aim of this project is to encourage the recycling and reuse of materials for the purpose of fashion education and the education on the topic of the circular economy.</i>
<b>Target Group/Beneficiaries</b>	<i>The target candidates for this project consist of second level and third levels students.</i>
<b>Needed resources</b>	<i>A team of maximum 3 students must participate using only recycled goods. Therefore, students must have access to clean recycled materials. Funding is also needed to allow this project to go ahead.</i>
<b>Methodology</b>	<i>Junk Kouture is open to 13-18-year-olds and challenges young people to design, upcycle and create high end Kouture from recycled Junk, before highlighting their design and representing their school on stages</i>



	<p><i>across the world. The event is open to all Irish schools who compete to display their creation at a final in Dublin. Delivery of the program is through individual schools using supporting resources such as digital slides, handbooks, and masterclasses to support learning in creativity, design, and sustainability.</i></p> <p><i>Students can present their work across in participating countries such as France, Italy, UK, and the USA.</i></p>
<b>Success Factors</b>	<p><i>What are the conditions, internal (classroom elements, systems, and tools) and external (institutional, economic, social, etc.), necessary to make this practice successful? For this project to be successful, a number of factors must be addressed. These include internal teambuilding and education on the circular economy.</i></p>
<b>Competences of the GreenComp addressed</b>	<ol style="list-style-type: none"> <li><i>1. Valuing Sustainability</i></li> <li><i>2. Systems Thinking</i></li> <li><i>3. Critical Thinking</i></li> <li><i>4. Problem Framing</i></li> <li><i>5. Future Literacy</i></li> <li><i>6. Exploratory Thinking</i></li> <li><i>7. Collective action</i></li> </ol>
Related <b>Resources /Link</b>	<p><a href="https://junkkouture.com/">https://junkkouture.com/</a></p>

#### 4.4 [The Willow Project]

<h2>The Willow Project</h2>	
[2023]	Author(s): [Gurteen College]
<b>Element</b>	
<b>Goals</b> of the best practice	<i>The goal of this project is to provide renewable energy to a third level VET college</i>





<b>Target Group/Beneficiaries</b>	<i>The target of this project is third level institutions and VET colleges.</i>
<b>Needed resources</b>	<i>For this project to go ahead, a prospective participant requires a tree plantation on site, different varieties of trees within the plantation and functioning wood chip boiler.</i>
<b>Methodology</b>	<i>To begin, a woodland must be planted. The area of this woodland should be approximately 30 hectares with a mixture of tree species. These trees must be cut back in the spring to encourage exponential regrowth. As the trees grow, weeds must be controlled with herbicides. To ensure the trees can be used properly, a 270 square meter drying floor must be installed to allow for drying of the wood chips. The trees must then be harvested on a 3-year cycle. The tree cuttings are then put through a chipper to allow for use in a wood chip boiler.</i>
<b>Success Factors</b>	<i>To allow for this project to succeed several factors must be considered. Land must be available for the planting of trees as well as space for a wood chip boiler and a drying shed/ area.</i>
<b>Competences of the GreenComp addressed</b>	<i>1. Promoting Nature 2. Systems Thinking 3. Problem Framing 4. Future Literacy 5. Individual Initiative</i>
<b>Related Resources /Link</b>	<a href="https://gurteencollege.ie/our-sustainability-projects">https://gurteencollege.ie/our-sustainability-projects</a>

#### 4.5 [Take 1 Programme]

<h2>Take 1 Programme</h2>	
[2023]	<b>Author(s):</b> [Department of Education]
<b>Element</b>	
<b>Goals</b> of the best practice	<i>The goal of this project is to embed the teaching of education for sustainable development in second level education institutions, while also mapping the United Nations SDG'S to learning outcomes.</i>



<b>Target Group/Beneficiaries</b>	<i>The target audience of this project are teachers and Second Level students.</i>
<b>Needed resources</b>	<i>To ensure success of this project a means of communication between participants must be secured while offering funding to support the work.</i>
<b>Methodology</b>	<i>To begin, an initiative to raise awareness of the UN sustainable development goals must established. A means of communication must be established to link formal and informal activities between the participants. An overhaul of curriculum must begin to shape a new syllabus and begin its operation. The new curriculum must then be implemented.</i>
<b>Success Factors</b>	<i>What are the conditions, internal (classroom elements, systems, and tools) and external (institutional, economic, social, etc.), necessary to make this practice successful? To ensure the success of this project adequate funding is essential. A means of communication between institutions while also shaping the individual needs of individuals is also vital.</i>
<b>Competences of the GreenComp addressed</b>	<i>1. Supporting Fairness 2. Critical Thinking 3. Political Agency</i>
<b>Related Resources /Link</b>	<i><a href="https://www.take1programme.com/articles/embedding-the-sustainable-development-goals-in-teaching-and-learning">https://www.take1programme.com/articles/embedding-the-sustainable-development-goals-in-teaching-and-learning</a> take1programme.com</i>





## Conclusions

While there is increasing awareness and discussion about sustainability, much of the work is carried out by individuals, lacking a unified approach. Moreover, certain types of courses, like apprenticeships, lag in incorporating sustainability compared to traditional class-based learning. Integrating sustainability into existing curricula is also challenging.

Weaknesses in the current practices include a lack of resources and dedicated training for educators, barriers to accessibility, and a need for language adaptation. There is an inability to change existing curricula as a hindrance to progress and to enhance sustainability competencies, staff and tutor training are crucial, with funding as a complementary resource. Collaboration and communication among organizations and sectors are deemed essential, along with increased training for educators and tutors.