FOCUS GROUPS ON SUSTAINABILITY EDUCATION AND INCLUSIVENESS

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Inclusive Future: Fostering Inclusion through Sustainable Education (POL-EXP)

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List of abbreviations

Abbreviation	Term
ESD	Education for Sustainable Development
EU	European Union
FG	Focus Group
GreenComp	European Sustainability Competence Framework
SD	Sustainable Development
SDG	Sustainable Development Goals
SDG 4	Sustainable Development Goal 4
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training

Glossary

Term	Definition
Action Competence	The ability to act intentionally and effectively in sustainability-related issues with confidence and responsibility (Mogensen & Schnack, 2010).
Collective Action	Collaborative efforts by groups to address shared sustainability issues or achieve common goals (UNESCO, 2020).
Community engagement	Community engagement is a collaborative process through which educational institutions actively partner with local communities to identify needs, co-create solutions, and implement actions that promote mutual learning and sustainable development. It involves authentic, reciprocal relationships that empower both students and community members, often through mechanisms like service learning, participatory research, and civic action. Rodríguez-Zurita et al. (2024)
Critical Thinking	The ability to question norms, evaluate evidence, and reflect on assumptions to support informed decision-making in sustainability contexts (UNESCO, 2017).
Experiential learning	Experiential learning is defined as a dynamic, cyclical process through which learners construct knowledge by engaging directly with real-world environments, followed by structured reflection, conceptual understanding, and practical application. In the context of environmental education, it involves in-situ, inquiry-based learning—such as fieldwork in natural reserves—where experience, reflection, abstraction, and action come together to develop ecological awareness and sustainability competencies (Crespo-Castellanos et al., 2024).
Four Dimensions of Sustainability	The environmental, social, economic, and cultural dimensions that underpin comprehensive approaches to sustainability (UNESCO, 2017).
Futures Thinking / Futures Literacy	The capacity to imagine and evaluate possible future scenarios and make informed choices to shape sustainable futures (Miller, 2015).
Holistic Education	An approach to education that integrates intellectual, emotional, social, physical, artistic, creative, and spiritual potentials of learners (UNESCO, 2020).

Individual Initiative	Personal motivation and proactivity in engaging with sustainability challenges and solutions (Bianchi, Pisiotis, & Cabrera Giraldez, 2022).
Personalised support system	A personalized support system is a structured, responsive framework that tailors educational resources, instructional strategies, and interventions to meet the individual academic, social, emotional, and developmental needs of each learner—particularly those at risk of exclusion—by using data, learner profiles, and adaptive tools to ensure equitable participation and success (Romero García & Pedró Ostáriz, 2023).
Planetary Well-being	A concept that frames human well-being within the ecological limits of Earth's systems, linking health, sustainability, and equity (Kortetmäki et al., 2021).
Political Agency	The capacity of individuals or groups to influence decision-making and advocate for sustainability policies and practices (UNESCO, 2020).
Project-based Learning	A student-centered teaching method in which learners gain knowledge and skills by working over an extended period to investigate and respond to real-world questions, problems, or challenges. PBL emphasizes collaboration, critical thinking, and application of knowledge in practical contexts (Larmer & Boss, 2015).
Student-led initiative	Actions, practices, or projects initiated and promoted by students either at a school or higher education level, with support from teachers and other staff members.
Student empowerment	Student empowerment refers to the process of enabling students to take control of their own learning by giving them the autonomy, voice, and responsibility to make decisions about their education. Empowered students are actively involved in setting goals, making choices, and reflecting on their learning, fostering a sense of ownership and intrinsic motivation (Zimmerman, 1995). Student empowerment in sustainability education refers to the process of enabling learners to actively participate in decision-making, co-create sustainable solutions, and take ownership of both their learning and environmental outcomes. It emphasizes giving students agency, responsibility, and voice in projects that tackle real-world sustainability challenges—from school policies to community initiatives (Tassone et al., 2017).

Systems Thinking	Understanding the interconnections and interdependencies within ecological, social, and economic systems (Bianchi et al., 2022).
Valuing Sustainability	Recognising the importance of sustainability for present and future generations, and integrating these values into personal and collective actions (Bianchi et al., 2022).
Vulnerable students	Students considered to be at academic risk (e.g., school failure, dropout, discrimination) or social risk (e.g., poverty, exclusion, mental illness) due to specific characteristics such as gender, age, nationality, ethnicity, health condition, socioeconomic status, or any other social condition (Pisco Costa et al. 2023).

Executive summary

Focus Groups on Sustainability Education and Inclusiveness

InclusiveFuture: Fostering Inclusion through Sustainable Education

Undertaken as part of the InclusiveFuture project, funded by the European Union, the report summarises insights regarding the practice of sustainability competence development in eight partner countries: Bulgaria, Finland, Greece, Hungary, Portugal, Romania, Spain, and Türkiye using the GreenComp Framework (2022) of the European Union as reference.

The InclusiveFuture project addresses the urgent need to integrate sustainability competencies into life-long learning, developing learners with the knowledge, skills, and attitudes to think, plan, and act responsibly for the planet. The project aims to support the integration of sustainability competences into the educational process, creating a more inclusive environment and empowering primary and secondary schools towards sustainable practices. Aligned with the European Education Area's priorities, the project facilitates inclusive education, advocates for education for sustainable development (ESD), and contributes to the European Skills Agenda.

This study employs focus groups to identify how sustainability-related concepts, skills, and values are addressed in practice, focusing on environmental, social, cultural, and economic dimensions of sustainability. A cross-focus group comparative analysis identifies broader themes, convergences and divergences, highlighting current practices and opportunities for action for strengthening sustainability education and inclusiveness.

Participants came from rural and urban schools, representing different communities and levels of experience. Views were shared from teachers of various disciplines. Despite this diversity, there was strong convergence on key themes and shared recognition of systemic obstacles. The groups were highly interactive and the participants built on one another's ideas, suggesting a cohesive group dynamic. Numerous concrete examples were provided when participants were probed or when themes were reiterated: real-life school projects (e.g., recycled material artifacts), collaborations with local community leaders; parent engagement challenges and attempted solutions; calls for teacher training and structured policy support. Overall focus group participants were consistently engaged and attentive. The tone was hopeful and inspired – in relation to successful projects and inclusive practices; frustrated – about systemic challenges such as rigid curricula, limited time and resources, lack of policy support, and disengaged stakeholders; and determined – regarding educators' belief in their capacity to make a difference. The discussions reflected a professionally mature, empathetic, and critically reflective group of educators. Participants were both realistic about

challenges and motivated to act, showing a clear understanding of the interplay between local realities and broader European policy directions. The conversation demonstrated consistency, richness in examples, and a collaborative spirit—making it a valuable basis for the design of future teacher support frameworks and policy learning.

One of the most persistent barriers to acting for sustainability identified by the participants was the time pressure faced by both students and teachers, as overloaded schedules leave little room for integrated, meaningful sustainability activities. This challenge was tied to the lack of adequate human and financial resources, which limits schools' capacity to plan, execute, and sustain impactful initiatives. Without dedicated funding, professional training, and enough staff, it was considered problematic to transform good intentions into actions. Teachers considered that these issues are compounded by the lack of parental and societal support: when sustainability is not reinforced at home or reflected in the broader community, students receive mixed messages that weaken their motivation and understanding. They felt that as a result, efforts toward sustainability often remain fragmented and superficial, rather than evolving into lasting change.

Focus group participants emphasized several **core needs** to effectively embed sustainability in education:

Systemic and Institutional Support: Teachers called for strong, strategic backing from leadership, with aligned policies, stable funding, and infrastructure to ensure sustainability becomes a permanent and integrated part of school life—not just a series of temporary projects.

Allocated Time within the Curriculum: The packed school schedule limits space for meaningful sustainability learning. Educators need dedicated time for interdisciplinary teaching, student reflection, and collaborative planning.

Cohesion, Flexibility, and Relevance in Curriculum: Current curricula lack integration and real-world relevance. Teachers stressed the importance of updated content that resonates with students' lives, supports motivation, and encourages agency through hands-on, applied learning.

Practical Tools and Resources: There is a shortage of user-friendly, adaptable teaching materials. Educators need free, localized, and time-efficient tools that fit different age groups and classroom settings.

Assessment of Non-Academic Outcomes: Teachers urged the development of assessment systems that value behavioral and social-emotional growth—like empathy, cooperation, and environmental responsibility—alongside academic performance.

Inclusiveness and Equity: Sustainability education must be accessible to all learners, regardless of background. This requires adapting teaching methods and content to be culturally and socio-economically responsive.

Scaling and Sharing Good Practices: Innovative practices often remain isolated. Teachers want systems to share, scale, and replicate successful initiatives across schools and regions.

Professional Development: Many teachers feel underprepared to teach sustainability effectively. Ongoing, practical training—especially on interdisciplinary topics and inclusive pedagogy—is essential.

Parental Engagement: Students need consistent messaging between school and home. Engaging parents helps reinforce sustainable behaviors and builds a more unified learning environment.

Broader Societal Support: A sustainability culture must extend beyond schools. Teachers emphasized that societal norms, media, and public institutions must reflect and reinforce the values taught in the classroom.

Recommendations and Next Steps

Focus groups across eight countries identified five key **opportunity areas** for strengthening sustainability education and inclusiveness:

Policy Reform: There is a strong need for clear national and school-level strategies that embed sustainability into educational standards. Priorities include long-term funding, reducing bureaucratic barriers, and aligning policies with real-world environmental and social challenges. Effective reform should support both at-risk and high-potential students while enabling scalable, cross-sector collaboration.

Systemic Infrastructure and Support: Investment in modern, inclusive school environments and roles like sustainability coordinators is critical. Schools need platforms for sharing resources and scaling successful practices. Strong systems help translate good ideas into sustainable, long-term change by supporting both educators and families in diverse contexts.

Curriculum and Instructional Innovation: Sustainability must be integrated across subjects, grades and teaching practices. Opportunities include project-based and experiential learning, outdoor education, use of real-world data, and student-led initiatives. Setting aside time for these practices and embedding them into daily routines promotes relevance, student agency, and long-term impact.

Pedagogical and Professional Development: Empowering educators through ongoing, context-sensitive training is essential. Teachers need interdisciplinary strategies, culturally responsive methods, and access to collaborative networks. Peer mentoring and co-design approaches help foster innovation and support professional growth.

Community and Stakeholder Engagement: A consistent message across home, school, and society is vital. Strengthening family-school relationships, engaging marginalized voices, and building partnerships with NGOs, local authorities, and cultural institutions can reinforce school-based learning and build a shared sense of responsibility.

These findings provide a practical context to, and are consistent with, the general recommendations formulated for policymakers by the curriculum review by Hooda & Tuba (2025) that preceded these focus groups. Next steps for the project involve compiling and analysing best practice case studies from the partner countries, and developing an inclusive pedagogical model for teaching, learning, and assessing sustainability competences to provide guidance to teachers and educators.

Conclusion

This study provides insights on the practice of sustainability education and inclusiveness from the eight partner countries. While teachers and educators from all countries showed interest and motivation, there were a series of frustrations that indicate a serious need for support. The InclusiveFuture project aims to address this need for support, contributing to a more sustainable and inclusive future.

Figure 1. Word cloud from focus group participants when asked to say a word or phrase about sustainability education

1. Introduction

1.1 InclusiveFuture project

Humanity is currently confronting a complex web of interconnected challenges that threaten the well-being of people and the planet. Among the most pressing are climate change, environmental degradation, biodiversity loss, rising social and economic inequalities, political instability, and rapid technological disruption. These challenges are not confined by national borders and often exacerbate one another, creating a cycle of vulnerability and insecurity. These interconnected issues underscore the urgent need for systemic change across sectors and societies.

Sustainability and sustainable development have emerged as powerful frameworks for addressing the complex and interrelated challenges facing humanity. Rooted in the principles of equity, environmental stewardship, and long-term resilience, sustainable development aims to meet present needs without compromising the ability of future generations to meet theirs. It offers a holistic approach that balances social well-being, economic prosperity, and ecological health. As a means of fostering positive transformation, sustainability encourages systemic change—redefining how societies produce, consume, and relate to the natural world in order to create more just, resilient, and thriving communities worldwide.

A key pillar of the global sustainability agenda is the integration of sustainability into lifelong learning, aimed at developing sustainability competences. These encompass the knowledge, skills, and attitudes needed for learners of all ages to think critically, plan effectively, and act with empathy, responsibility, and care for both people and the planet (Bianchi et al., 2022).

The InclusiveFuture project, funded by the European Union, seeks to promote the integration of sustainability competences within educational systems directly addressing the Erasmus+ priority of promoting education for sustainable development (Topic 4: School education, Priority 9: Building sustainability competencies). It is guided by the European Framework for Green Competences (GreenComp) and involves policy experimentation, stakeholder engagement, and the development of innovative educational tools and resources. The project is committed to fostering inclusive education practices that embrace diversity and promote equity within the learning environment. Through these efforts, the project aims to foster a more inclusive learning environment for both educators and students, while supporting schools in their transition toward more sustainable and inclusive practices. The project's objectives are intricately connected to the priorities of the European Education Area (EEA) Facilitating inclusive education and Advocating education for sustainable development (ESD).

1.2 Purpose of the focus groups study

As a first step towards providing support to schools across partner countries in integrating and assessing the development of sustainability competences, it was considered crucial to understand the countries' latest progress and existing needs with respect to Education for Sustainable Development. Hence a comparative study has been carried out to evaluate the state of art concerning education for sustainable development in the national core curricula and selected practices of the 8 partner countries through analysis of each country's primary and secondary school curricula as well as supporting documents. The curricular analysis was supported by provision of evidence on teacher training and assessment practices regarding development of sustainability competences provided by partner countries. The main focus of the study was on evaluating the readiness and relevance of national core curricula regarding sustainability competence development and assessment based on the GreenComp Framework (2022).

To complement the findings from the curriculum mapping, the consortium collected empirical data from the partner countries in the form of focus group discussions. The purpose of these focus groups is to identify the needs and challenges schools face, as well as the best practices they developed, and barriers they encountered, in embedding and assessing sustainability competencies. The findings from the curriculum mapping study together with the focus groups report will be used later to develop an inclusive pedagogical model for teaching, learning and assessment of sustainability competences in schools, which will provide guidance to teachers and educators working with the development of sustainability competences at the school level.

1.3 Context of the focus groups study

1.3.1 Participating countries and organisations

A total of 10 focus groups have been organised in 8 countries by the following 10 partner organisations of the InclusiveFuture project (see Figure 1):

Bulgaria

1. The Center for Educational Integration of Children and Students from Ethnic Minorities (CEICSEM) in Bulgaria is a government-supported institution focused on promoting equal educational opportunities for children from ethnic minority backgrounds. It works to integrate students into the education system, support bilingual education, and foster intercultural dialogue. The centre develops policies, funds projects, and collaborates with NGOs and schools to reduce educational disparities.

2. Law and Psychology (LP), a non-profit organisation based in Bulgaria. The main activities of the organization are focused on enhancing the development of skills and competences of youth and vulnerable groups; organizing training, conferences and seminars; supporting Law and Psychology students during their internship, as well as conducting research in the field of Bulgarian, European and international legislation.

Finland

3. Glocal Minta OY (GM), is a globally connected SME located in Jyväskylä, Finland, at the heart of education development, with its focus on sustainability and global citizenship education (www.finnminta.com/en). GM fosters dialogue and development both in Finland and globally. It specializes in education for sustainable development, planetary well-being education, action competence for well-being, phenomenon-based and interdisciplinary learning. Its expertise extends to educational research and innovation, framework development, and collaborative, comparative research processes, driving meaningful advancements in education worldwide. Its initiatives, such as sustainability theme weeks and Finn Minta Forum teacher training events, provide practical and experiential learning and dissemination opportunities.

Greece

4. Big Bang School (BBS), an innovative primary school established in 2019 on the border of Thessaloniki and Halkidiki, was founded by visionary educators to provide a holistic learning experience for students from across Greece on three core principles: improvement of consciousness, development of life skills, and teaching through differentiated learning. In an environment that nurtures curiosity, personal growth, and a deep appreciation for knowledge and nature, the students at BBS are empowered to shape the future. Through educational field trips, interactive workshops, artistic activities,and collaborative projects, students cultivate their talents, develop critical thinking skills,and enhance their social engagement. BBS fosters a strong connection with nature, creating a dynamic learning environment that encourages collaboration, discovery, and personal development–shaping responsible, innovative, and creative individuals. Embracing the principles of multilingualism from an early age, we explore the interaction of languages and cultures in the human brain, equipping students with valuable linguistic and intercultural skills. The school's

vision is to create a transformative learning environment for every student, preparing them for the future and helping them become the best versions of themselves.

Hungary

5. Obuda University (OE) is a key player in Hungarian higher education and a leading practice-oriented institution, where 11,000 students pursue their studies. According to the latest, 2024 Times Higher Education report, OU is the highest ranked technical university in Hungary. It offers competitive knowledge in the fields of mechanical engineering, mechatronic engineering, computer science, applied mathematics, economics, geoinformatics, architecture, marketing and teacher training in 7 faculties, 2 education centres, 16 BA/BSc (8 in English), and 14 MA/MSc (7 in English) programs. OU runs 3 doctoral schools. OU is an actor in multiple international organisations and bilateral and international programmes (currently over 20 EU financed scientific projects).

Portugal

6. Instituto Superior Técnico /Lisbon University Técnico Lisboa is Portugal's leading school of Engineering, Science, Technology, and Architecture, recognized for academic excellence, research impact, and strong international partnerships. With over 11,000 students from 60+ nationalities, Técnico fosters innovation, entrepreneurship, and cutting-edge research to address global challenges. The school actively participates in international academic networks (CLUSTER, TIME, CESAER) and collaborates with top universities such as MIT, CMU, UT-Austin, and EPFL through double degree and joint PhD programs. Técnico is committed to expanding its global presence through strategic partnerships, interdisciplinary research, and knowledge transfer, making it a key player in international projects.

Romania

7. Focus Eco Center is a non-profit organization based in Tg. Mures, Romania, and is mainly active in the Central Transylvania region. The main goal of the organization is to collect and distribute quality information on key environmental issues, such as climate change or biodiversity loss, and to promote valuable, scientifically proven information on solutions. Focus believes that school teachers and educators are the right people who can influence the future of generations to come, so our main target groups are schools, but also

works with other groups such as policy makers. It develops pilot projects especially in the field of water management and offers its experiences for implementation by larger systems.

Spain

8. Open Europe is a non-profit organization based in Reus, Spain, dedicated to promoting European mobility, lifelong learning, and educational innovation. It provides training, career guidance, and access to European programs for students and educators. Open Europe specializes in fostering inclusion, sustainability, and digital skills, creating educational platforms and innovative learning resources to support professional development and social integration.
9. Escola Pia de Catalunya (EPC) is an institution with a network of 23 schools. The studies go from kindergarten to higher education. We have VET studies in 13 of the 22 schools, in different fields: Administration, IT, Sport, Health care, Childhood, Marketing, forestry, hospitality etc. EPC has 20.000 students, 2.900 teachers, and one foundation (Camins). EPC has more than 400 years of experience in education in Catalunya. Since then, and up until today, the Escola Pia de Catalunya has continued to evolve, adapting to new times without ever losing the purpose of promoting education as a driving force for social transformation.

Türkiye

10. Konya Provincial National Education Directorate (Konya IL MEM) is a state institution responsible for the planning and coordination of educational and training activities in preschool, primary, secondary, and adult education throughout Konya. The province encompasses 31 districts, hosting a total of 2,913 schools, 36,439 teachers, and 543,379 students. Konya IL MEM acts as an umbrella organization, uniting this extensive educational network.

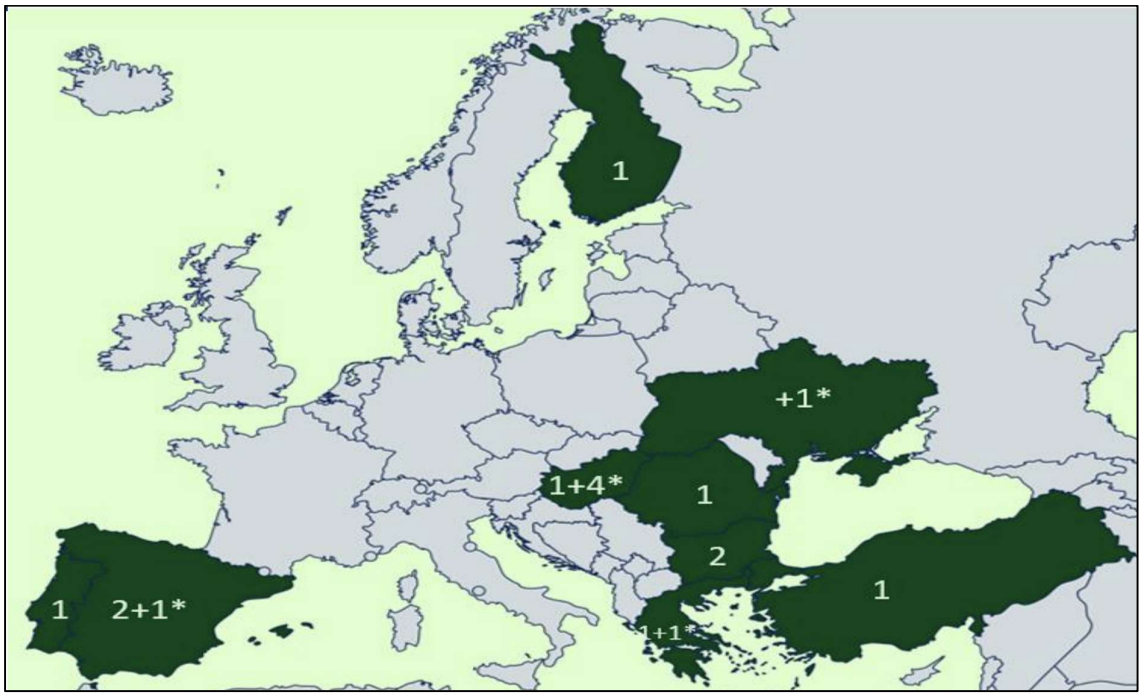

Figure 2. Participating countries and number of partner organisations (*associated partners) represented on a map.

1.3.2 Underlying sustainability competence framework

The GreenComp framework (Bianchi, 2022), used as a reference framework in both the curriculum mapping study and the focus groups study, is the European Union's official framework for developing sustainability competencies across all areas of education and training. Developed by the Joint Research Centre (JRC) as part of the European Green Deal, GreenComp aims to empower individuals of all ages to live, learn, and work in ways that support ecological, social, and economic sustainability. It provides a shared foundation for promoting a sustainability mindset across formal, non-formal, and informal learning environments.

GreenComp is a reference model designed to inform curriculum development, teacher education, policy design, and assessment strategies. The competences are non-hierarchical and interrelated, meant to be adapted to different learning levels and contexts. The framework organises 12 key competences into four interconnected areas, based on the belief that meaningful action for sustainability is dependent on the ability to think systemically, envision change, and act ethically.

Figure 3. GreenComp conceptual reference model (Bianchi et al., 2022, pg. 3)

1. **Embodying Sustainability Values** – This area focuses on internalizing values that support sustainability. It includes:
    - Valuing Sustainability: Reflecting on personal and societal values in relation to sustainable living.
    - Supporting Fairness: Promoting social and intergenerational equity.
    - Promoting Nature: Recognizing human-nature interdependence and fostering care for ecosystems.
2. **Embracing Complexity in Sustainability** – This area cultivates the skills needed to understand and address complex, interconnected sustainability challenges. It includes:
    - Systems Thinking: Seeing the bigger picture and interrelations across systems.
    - Critical Thinking: Evaluating information, questioning assumptions, and resisting greenwashing.
    - Problem Framing: Understanding sustainability issues from multiple perspectives and defining them appropriately.
3. **Envisioning Sustainable Futures** – Learners are encouraged to imagine and shape possible futures. This area includes:
    - Futures Literacy: Anticipating and planning for alternative futures.
    - Adaptability: Navigating change and making informed decisions under uncertainty.

- Exploratory Thinking: Using creativity and interdisciplinary approaches to generate new solutions.

4. **Acting for Sustainability** – This area emphasizes taking initiative and influencing change. It includes:
    - Political Agency: Understanding governance systems and advocating for policy change.
    - Collective Action: Collaborating with others for sustainable outcomes.
    - Individual Initiative: Identifying and exercising one's own capacity to contribute meaningfully.

Beyond its comprehensiveness and European relevance, GreenComp's competence-based structure allows for the identification of diverse approaches to integrating sustainability across various subjects and educational levels, rather than being tied to specific content. Furthermore, the framework's development through a participatory methodology, involving experts and stakeholders from various backgrounds, ensures that it represents a wide range of perspectives on sustainability education, making it a robust and widely accepted reference point for comparison across different national contexts and diverse educational settings. This inclusive development process enhances GreenComp's legitimacy and applicability, while its living document character ensures that it remains relevant and responsive to the dynamic nature of sustainability education (Hooda & Tuba, 2025).

1.4 Research questions

The focus group research was guided by a set of core questions:

- What are some in-depth insights into the current practice of sustainability education and inclusiveness across diverse educational contexts in partner countries? Specifically, the discussions explored how these themes are being implemented in schools, the everyday experiences of educators, and the pedagogical strategies in use.
- What are some key barriers focus group participants face as well as pressing needs that must be addressed to support more effective and equitable practices?
- What are potential opportunities for action?

The research aimed not only to surface general patterns and shared experiences (convergences), but also to recognize context-specific differences (divergences) that reflect the varied realities across regions and school systems. These findings contribute to a broader understanding of where support and intervention are most needed and where promising practices already exist.

1.5 Structure of the report

This report is structured into four main chapters: an introduction, a methodology chapter, an insights chapter, and a final chapter on reflections and opportunities for action. The methodology chapter outlines the use of focus group discussions as the primary research technique. The insights chapter presents key findings from the focus groups. These include participants' varying degrees of familiarity with GreenComp and their interpretations of sustainability. Discussions revealed the practice and challenges of embedding sustainability values, navigating the complexity of sustainability, and fostering student agency in envisioning and acting for a more sustainable and inclusive future. Participants shared both converging and diverging views on current practices. The final chapter, reflections and opportunities for action, synthesizes overarching themes around barriers alongside identified needs. It also outlines actionable opportunities under five categories: policy reform, pedagogical and professional development, curriculum and instructional innovation, community engagement, and systemic infrastructure. These reflections provide a roadmap for strengthening sustainability and inclusion in education across Europe and beyond.

2. Methodology

2.1 The focus group technique

Focus groups rely on the process of engaging in thoughtful discussion allowing the nuances of human experiences to emerge, offering a rich tapestry of insights. Gathering key focus group insights involves careful listening, analysis, and synthesis of participant feedback. To effectively extract these insights, researchers engage participants with open-ended questions, encouraging diverse opinions (Tracy, 2013). This approach allows for a deeper understanding of the group's perspectives and experiences. Analyzing recorded discussions can highlight recurring themes, providing a clearer picture of overall sentiments and behaviors. In addition, categorizing insights into thematic areas enhances the analysis. This can include factors like preferences, challenges, barriers and needs. Researchers document specific quotes that illustrate key insights, adding texture to the findings. Following this process ensures that focus group insights are not only actionable but also resonate with the broader research objectives. By prioritizing clarity and context, researchers can derive valuable lessons that directly guide decision-making and strategy development.

Consequently the focus group technique is a valuable follow-up to the curriculum mapping exercise on sustainability education and inclusiveness, as it allows for in-depth exploration of perspectives from teachers, school principals and education specialists. Unlike the mapping exercise, which provides a structured overview of existing content and gaps, focus groups enable participants to reflect on the relevance, accessibility, and impact of sustainability and inclusiveness in actual teaching practices. Because this method encourages dialogue, it allows the surfacing of diverse experiences, and it can reveal context-specific insights that might not emerge through document analysis. Key advantages include the ability to clarify findings from the mapping phase, generate qualitative data, and build shared understanding among participants.

Focus groups also have limitations—they may be influenced by group dynamics, dominant voices, or facilitator bias, and the findings are not generalizable. Despite these drawbacks, when well-facilitated, focus groups offer rich, nuanced input that can inform the design and implementation of more inclusive and effective sustainability education initiatives.

To maximize the benefits of focus groups, the following aspects were given special consideration:

2.2 Group size and composition

The InclusiveFuture project partners conducted 10 focus groups in 8 countries. To each focus group a minimum of 10 participants were invited to ensure diverse and meaningful

discussion. The composition of the groups was carefully curated to include a balanced mix of educational professionals, reflecting a wide range of perspectives and experiences. Participants included elementary, secondary, and high school teachers, as well as vocational educators, school vice principals, principals, and education specialists. This varied representation enabled the collection of rich, context-specific insights into how sustainability education and inclusiveness are currently addressed in different educational settings and roles, and how these can be further integrated and strengthened across school systems.

Table1. Focus group details

Focus Group Identifi-cation	Country	Organising Partner	Location and Date	Number of partici-pants	Role of participants
FG Bulgaria1	Bulgaria	CEICSEM	Burgas, 22.04	14	Participants from urban and rural schools, representing different communities and levels of experience; Teachers of various disciplines including history, literature, physical education and ICT;
FC Bulgaria2	Bulgaria	Law and Psychology	Sofia, 22.04	11	School teachers, directors and educators
FC Finland	Finland	Glocal Minta Oy	Jyväskylä, 15.05	8	Teachers, educators, former teacher students, educational researchers
FG Greece	Greece	The Big Bang School	Lakkoma, 15.05	13	Teachers, educators, school principals
FG Hungary	Hungary	Óbuda University	Budapest, 09.05	14	Primary school teachers, secondary school teachers, vocational teachers
FG Portugal	Portugal	University of Lisbon IST	Oeiras, 30.05	14	5 schools: 1 school with Lower and Upper Secondary (7th–12th

Focus Group Identifi-cation	Country	Organising Partner	Location and Date	Number of partici-pants	Role of participants
					grades);1 school with Upper Primary (5th and 6th grades);3 schools with Preschool and Lower Primary (1st–4th grades) Roles: Teachers, School Cluster Director, Deputy Director, Department and Citizenship Coordinator, School Cluster Psychologist, “Ciencia Viva” Coordinator, Teachers from various disciplines (e.g., mathematics, biology literature).
FG Romania	Romania	Focus Eco Center	Nyárád-gálfalva, 08.05	17	School principal, school vice-principals, primary, secondary and highschool teachers teaching various subjects in 6 rural and 1 urban school
FG Spain1	Spain	Escola Pia Catalunya	Mataró, 07.05	10	School principal, VET director, teachers, coordinators, administrator
FG Spain2	Spain	Open Europe	Reus, 25.04	10	School principal, teachers, head of studies, special education teacher
FG Türkiye	Türkiye	Konya Provincial National Education	Konya, 21.05	29	Primary school, lower secondary school teachers, school directors.

Focus Group Identifi-cation	Country	Organising Partner	Location and Date	Number of partici-pants	Role of participants
		Directorate			

2.3 Ethical considerations

The invitation letter clearly specified the objectives of the focus group and the main discussion points. It has been emphasised that participation is voluntary. Potential participants were informed that the focus group session will be audio-recorded to support accurate analysis, and that by participating, they give their consent to this. Consent was also obtained for the taking and publishing of photos. It has been explained that the anonymity of the participants will be fully protected with no individual names being used in any publications or reports. The reporting format of the findings was specified as a country-specific report available in each country's own language and an overall project report available in English. The project website link was given for the future accessibility of these reports. Participants were also given the option to request a copy of the report to be emailed to them directly.

2.4 Focus group discussion guide

A discussion guide was designed and validated by all partners. This guide recommends a 15 minute welcome, introductions and icebreaker activity, followed by a 90 minute guided discussion and a 15 minute wrap-up and reflection section. The discussion points include all four areas of the GreenComp framework: (i) Embodying sustainability values, (ii) Embracing complexity in sustainability, (iii) Envisioning sustainable futures, and (iv) Acting for sustainability. In addition, the first discussion point explores how sustainability is understood in the educational context, while the last discussion point examines the inclusiveness of education. Each discussion point has 4 to 6 associated questions. The local adaptation of probing questions was recommended based on the Curriculum Mapping exercise that preceded the focus groups.

2.5 Background material

Participants to the focus groups were given background material in form of brochures or presentations on the InclusiveFuture project and GreenComp Framework.

2.6 Facilitation

During the design stage, a series of guidelines have been agreed upon by the project partners with respect to the facilitation of the focus groups. The stage for the focus group discussion

was to be set with clearly stating the objectives. A safe and inclusive environment was to be promoted by discussing the ground rules of engagement. Participants were to be told that the discussion is informal, everyone is invited to participate, and divergent views are welcome. The feeling of mutual trust and respect was to be maintained by the facilitator by demonstrating active listening, making eye contact, and using appropriate body language. A predetermined set of open ended questions were to be used to guide the discussion, each set of questions being preceded by a short explanation. The encouragement for participation was to be kept neutral. Probing questions were to be used to clarify responses, elicit additional details and encourage alternative viewpoints. Dominant voices were to be moderated without being silenced, and participation by all participants was to be encouraged through direct questions. Contributions were to be constantly summarised and validated.

2.7 Note taking, audio recording and observation

It has been recommended that a note taker be present during the focus group, and the session to be audio recorded. Special attention was to be paid to body language, facial expressions, tones and group dynamics during discussions, as these non-verbal signals can provide insights beyond spoken words.

Figure 4. Focus group Greece

2.8 Analysis

Field notes taken during the focus group, the oral summary of key points during the focus group, the debriefing with the moderator team immediately following the focus group, and the audio recording constitute the trail of evidence for the findings.

The analysis approach taken involves identifying prominent themes and patterns by analysing the focus group notes and audio recordings. This method enables capturing essential focus group insights along with quotes that reflect participants' sentiments. To create a

comprehensive overview, the Focus Group Discussion Guide outline was used to design a report template as reference. Each project partner filled this template to report on the focus group it organised.

Those carrying out the analysis were asked to consider a series of questions: What themes emerge from the responses? Are the words used identical, similar, related or unrelated? What is the internal consistency of the responses? Did respondents change their positions later in the discussion? Were the respondents able to provide examples or elaborate on the issue when probed?

Special attention was paid to non-verbal cues such as the engagement, body language, and emotional tone of the participants to further highlight their attitudes and beliefs, providing depth to the findings. Observations were made about group dynamics considering the level of interaction among the participants, the dominant voices, the diversity of perspectives and the cohesion of the group.

2.9 Comparative analysis

The individual focus group reports were systematically analysed using the template headings to group the information. Once information from each focus group was gathered for a specific heading, a summary of the insights was prepared and the convergences and divergences identified. Finally the main insights from all the focus groups were organised to reflect on the cross-cutting themes, and identify the main barriers and pressing needs leading to the identification of a series of opportunities for action.

Figure 5. Focus group Bulgaria2

3. Findings from the focus groups

3.1 Overall tone of the focus groups

Across all 10 focus groups the overall tone was motivated, and professionally committed, with participants showing a strong sense of shared responsibility and openness to collaboration. Discussions were marked by high levels of engagement, with educators offering thoughtful, experience-based insights and demonstrating a collective desire to advance sustainability and inclusiveness in education. While strong interest and devotion were consistent themes, frustrations were also frequently expressed, particularly regarding systemic challenges such as rigid curricula, limited time and resources, lack of policy support, and disengaged stakeholders. Despite these barriers, participants remained solution-focused, often inspired by existing good practices and motivated to drive change. The diversity of roles—from teachers to school leaders and specialists—enriched the dialogue and contributed to a constructive, respectful, and dynamic atmosphere in all sessions.

Table 2. Overall tone of the focus groups and levels of engagement

Focus Group	Overall Tone and Engagement
FG Bulgaria1	Hopeful and inspired – in relation to successful projects and inclusive practices. Frustrated – about systemic gaps, rigid curriculum, and disengaged parents. Determined – regarding educators' belief in their capacity to make a difference. Participants were consistently engaged and attentive. Most responses were detailed and thoughtful, indicating deep concern and professional commitment.
FG Bulgaria2	The tone of the discussions was motivational and inspired. The facilitators tried to make the discussion more informal in order to let the participants share their deep concerns and real hopes. Participants were at some moments skeptical when they were talking about the challenges and barriers in their work. However, many participants were eager to find solutions and shared a collective belief that sustainability initiatives could make a meaningful difference if supported by the right structures, resources, and engagement.
FG Finland	The overall tone of the focus group discussion was largely engaged and collaborative, with participants demonstrating enthusiasm for exploring sustainability issues in education. There was a mix of optimism regarding innovative practices and a sense of shared responsibility to address challenges. However, frustrations were also evident, particularly concerning time constraints, lack of practical tools and funding, and the

Focus Group	Overall Tone and Engagement
	perceived disconnect between policy and implementation. Participants exhibited a desire for concrete solutions and a willingness to build upon each other's ideas, although time limitations led to a hurried pace, especially towards the end, and some topics being cut short. Despite challenges, a general hope for meaningful change and a commitment to improving sustainability education in Finnish schools persisted.
FG Greece	The overall tone of the focus group was engaged, hopeful, and collaborative, punctuated by moments of frustration around systemic constraints. Participants expressed enthusiasm for exchanging ideas and reflected a shared commitment to advancing sustainability in education. Despite the challenges discussed, there was a strong undercurrent of motivation and collective responsibility.
FG Hungary	The good atmosphere of the discussion proved to be inspiring, reflecting the positive attitude of the participants, allowing everyone to express their views, the group was cooperative and no tensions arose.
FG Portugal	The group remained highly engaged and participative throughout the session, with consistent interaction and a variety of contributions. The discussion was particularly enriching due to the participants' diverse educational backgrounds, ranging from early childhood education to secondary school, and including areas such as inclusion, sustainability, and language learning.
FG Romania	Participants were genuinely interested and engaged, offering insightful reflections drawn from their everyday experiences. There was a shared sense of responsibility, a commitment to their role in shaping sustainable and inclusive practices. At the same time, a degree of frustration was evident—stemming from systemic obstacles, lack of support, and inconsistent reinforcement outside the school. This was accompanied by some doubt regarding the feasibility of lasting change. Yet, there remained optimism—a belief that with the right structures, collaboration, and shared effort, meaningful progress is still possible.
FG Spain1	The tone throughout the discussion was optimistic and committed, with moments of concern about structural limitations. Participants expressed motivation to keep improving sustainability education.
FG Spain2	The focus group held at Escola Teresa Miquel i Pàmies revealed a highly engaged, reflective, and cohesive educational community, deeply committed to sustainability

Focus Group	Overall Tone and Engagement
	and inclusion. Participants approached the discussion with a sense of openness and shared purpose, generating a productive and collegial atmosphere throughout. From the outset, the tone was predominantly positive and constructive, characterised by enthusiasm for the school's current practices and a willingness to explore areas for further development.
FG Türkiye	Overall tone was hopeful and inspired, with occasional frustration about barriers.

3.2 Lexical patterns

Many responses employed similar or related terminology, such as systematic, practical, inclusion, discipline, engagement, sustainability, responsibility, and real-world.

Phrases like "systematic approach," "parental misunderstanding," "lack of resources," and "teacher dependent" appeared multiple times. The use of similar vocabulary suggests a high degree of conceptual alignment and internal consistency.

Participants' views remained largely stable throughout the discussions. Their initial positions were consistently reinforced with examples and elaborations. No significant contradictions or reversals of stance were observed.

Figure 6. Focus group Spain1

3.3 Insights from the focus groups

3.3.1 Familiarity with the GreenComp framework

Across all of the focus groups, the majority of the participants did not demonstrate explicit familiarity with the GreenComp framework. The only exceptions were those participants who were involved in European projects and consequently became exposed to the framework (2 from FG Finland) or those who participated in training on this topic (several participants from FG Greece).

For example, in the FG Bulgaria1, while sustainability education and related concepts were actively discussed, at no point did any participant directly mention or reference the GreenComp framework by name. Their discussions were generally focused on broader aspects of sustainability, such as ecological awareness, recycling, and social responsibility, without linking these explicitly to the structured European competence framework (GreenComp). Indeed, there was an evident lack of familiarity with specific European frameworks. Participants frequently expressed uncertainty about the existence or implementation of formal sustainability concepts or guidelines within their schools.

In FG Bulgaria2, the participants shared that they believe a more extensive awareness campaign is necessary to promote the GreenComp framework as it is not really popular among teachers although they know basic concepts related to sustainability. Even those participants from FC Greece who have heard of Greencomp during professional training noted that they do not use it systematically in their school.

Figure 7. Focus group Romania

3.3.2 Understanding sustainability

Definition of sustainability

Within the same focus group and among different focus groups, the ability to define sustainability greatly varied. Across the 10 focus groups, participants generally expressed a multidimensional understanding of sustainability, though environmental aspects were most frequently emphasized. Initially, many educators associated sustainability with environmental practices—such as recycling, conserving energy, and reducing waste—but over the course of discussions, broader interpretations emerged. These included social inclusion, economic practicality, and, to a lesser extent, cultural values and diversity.

Although the environmental dimension appeared prominently, it was often superficial or event-based rather than systematic. Social sustainability was increasingly recognized, especially in relation to inclusiveness, equity, and community engagement. Economic sustainability was noted sporadically, often linked to practical life skills or economic inequalities, but rarely as a central component. Economic aspects were acknowledged as underdeveloped, with calls for curriculum links to topics like consumption, inequality, and life skills. Cultural sustainability was the least represented dimension, though some participants recognized its importance in fostering long-term change in attitudes and behaviors, especially involving families and diverse communities.

Framing and communication

Within the educational institutions discussed, sustainability was primarily framed through informal practices and projects rather than clearly defined curricular mandates. There was notable uncertainty among participants regarding formal curricular integration. Several participants explicitly stated they did not know if there was an official concept of sustainability within their schools or whether such guidelines existed.

Sustainability themes were described as sporadically integrated through extracurricular activities, such as recycling campaigns, practical workshops, and awareness days (e.g., "Green school" projects, collecting caps and batteries).

In general, sustainability was communicated through ad hoc activities and individual teacher initiatives rather than systematically integrated into curriculum planning. Some teachers pointed out the absence of explicit institutional guidelines or policies on sustainability education, leading to sporadic and inconsistent implementation:

Some groups, such as those in FG Bulgaria 2, FG Finland, FG Romania highlighted curricular efforts like dedicated "Tutor Time" or localized curriculum components that touch on civic

and environmental education. However, even where sustainability appears in curricula, it was considered to often lack systematic depth and cross-disciplinary cohesion. Teachers frequently expressed a need for more structured integration, better teacher training, and stronger institutional and parental support to embed sustainability values holistically in education.

A consistent theme across all focus groups was the overemphasis on environmental aspects, often at the expense of social, economic, and cultural dimensions. The economic and social dimensions (e.g., practical life skills, economic sustainability, social integration) were acknowledged as important but poorly represented in formal curricula and classroom practices. Cultural sustainability—including values, identity, and parental engagement—was almost universally seen as a critical gap, despite its potential to support mindset change and inclusivity.

While there is a growing awareness among educators of the multidimensional nature of sustainability, schools often prioritize the environmental component due to its visibility and ease of implementation. Participants strongly advocated for a more balanced, systemic, and inclusive approach that integrates social, cultural, and economic dimensions into both curriculum and school culture.

Selection of representative quotes

Notable participant quotes that illustrate the main themes that emerged:

- On the multidimensionality of sustainability:

“Sustainability includes not only ecology but also social, cultural, and economic aspects.” FG Bulgaria1

“Using second-hand clothes is also sustainability.” FG Bulgaria1

"But I think if we look closely and understand what is social sustainability, then I would say, Like the diversity we are living in, and now Finland is becoming more diverse, there are children coming from different backgrounds in a particular classroom, so maybe it's, it's, maybe that's also being part of it, but I'm not sure how well is that being integrated in the schools for teachers to talk about it, or children to understand, uh, that people around me are different, and we do come from different places, and, and what does that mean to me, yeah," FG Finland

- On the complexities of defining sustainability

"I'm thinking of prioritizing the needs of all life forms. I don't know how practical it is to prioritize the needs of all life forms. I think that it would make sense to prioritize the source of resources, and that's what I have defined it as." FG Finland

"Yeah, who, who has the power to prioritize the needs for all life forms? Like, who have the voice for, which is, like, high level and the other's voices are, like, secondary?" FG Finland

"Are we talking about sustainability or sustainable development? I think we should talk about sustainable development …" FG Romania

- On the perceived imbalances among the different dimensions:

"We are talking about recycling, but rarely fairness or how students can actively participate in the formation of a better future." FG Greece

"The environment is always present in our school's activities, but we miss the social and cultural aspects of sustainability." FG Greece

"For most students, sustainability just means recycling or turning off the lights." FG Spain1

"In VET, we go further—students have a whole subject dedicated to sustainability, including economic and social aspects." FG Spain1

"There's a lot of emphasis on the environment, but we need to talk more about the social and cultural sides too." FG Spain1

"There's a need to broaden our focus to include social and cultural aspects of sustainability." FG Spain2

"We need more focus on social justice in sustainability education." FG Türkiye

- On the absence of formal definitions and frameworks:

"We might have a sustainability concept, but we don't know about it." FG Bulgaria1

"Currently, we have no such explicit sustainability program." FG Bulgaria1

"Maybe next year we'll be required to introduce such a sustainability concept officially in our school, but currently we have no idea." FG Bulgaria1

"We can't put it into words." FG Romania

"There is no real space in the program to connect these topics, unless you create this space."

"It should be included systematically, not just in a single cohort or in occasional projects."

3.3.3 Embodying sustainability values

Convergences

Across the ten focus groups, several key points of convergence emerged regarding the promotion of sustainability values in schools. Schools frequently utilized informal, experiential learning approaches rather than relying on formal curricular content Fragmentation and inconsistency remain a concern, particularly where values education depends on informal practices or individual initiative (Romania, Greece, Bulgaria1).

Values are often considered most effectively internalized through lived, everyday practices. Additionally, there was a shared understanding that the whole-school culture—including teacher modeling, student participation, and community involvement—plays a vital role in sustaining these values.

Respect for nature was the most consistently emphasized value, commonly promoted through practical, hands-on activities such as recycling campaigns, gardening projects, and environmental clean-up efforts. Empathy, fairness, and cooperation were also widely fostered, often through collaborative classroom methods like group work, role-playing, and peer discussions.

Divergences

There were also points of divergence; while FG Spain2 and FG Bulgaria2 reflect deep integration, FG Romania, FG Greece, and FG Bulgaria1 show fragmented or ad hoc efforts. FG Romania, FG Greece, and FG Portugal emphasize the central role of motivated teachers, whereas FG Spain2 and FG Bulgaria2 promote a school-wide ethos. FG Finland, FG Hungary, and FG Spain2 show strong student-led initiatives or spontaneous behavior change; others rely on teacher organization. FG Finland integrates indigenous cultural perspectives.

Barriers

Across the focus groups, several common barriers to implementing sustainability education emerged. A major shared challenge is the rigidity of national curricula, which limits the flexibility teachers need to integrate sustainability values-based learning meaningfully into their subjects. Time constraints also surfaced as a widespread issue, with teachers in countries like Finland, Spain, Romania, and Türkiye reporting overloaded schedules that prevent the inclusion of interdisciplinary or extra-curricular sustainability topics. Additionally, many educators pointed to a lack of institutional support, particularly in the form of clear policy frameworks and sufficient funding or professional development opportunities. This systemic under-preparedness means that even motivated teachers often struggle to access the training, materials, and structural support needed to embed sustainability effectively in their teaching.

Despite these commonalities, significant divergences reflect differing national and local contexts. For example, while FG Bulgaria1, FG Greece, FG Romania and FG Portugal report cultural resistance from parents or broader society, FG Bulgaria2 and FG Spain2 highlight strong cultural alignment and community support for sustainability education. FG Hungary and FG Portugal stand out by emphasizing internal staff resistance as an important obstacle, a contrast to other countries where external structural and policy issues are more dominant. FG Finland brings a unique perspective with its focus on the localized nature of school curricula and the need for critical thinking around greenwashing, while also dealing with self-funded professional development. FG Spain2 again contrasts with most by reporting no major barriers—cultural, structural, or policy-related—highlighting a best-case scenario of coherence between school practices and family values.

Needs identified

Across the various national focus groups, there is a widespread demand for more structured and topic-specific training to help educators effectively communicate and model sustainability values in classroom practice. Teachers across countries also consistently highlighted the lack of accessible, high-quality teaching materials—particularly digital resources. Institutional support, especially in the form of clear leadership and policy direction, was another recurring theme, with many participants pointing to the importance of school leadership in prioritizing and embedding sustainability into the educational framework. Additionally, time constraints and heavy workloads were cited frequently, particularly in relation to organizing interdisciplinary or value-based activities. There was a broad recognition that meaningful sustainability education requires not only motivated teachers but also systemic support through training, resources, leadership, and time allocation.

While there are clear commonalities, notable divergences also emerged across the focus groups, reflecting the unique educational and cultural contexts of each country. For instance, FG Hungary stands out by downplaying the need for additional resources, emphasizing instead that motivation alone is sufficient to integrate sustainability values—contrasting sharply with FG Finland and FG Greece, where lack of funding, structured materials, and institutional support are seen as major obstacles. FG Romania and FG Spain2 emphasize strong alignment between schools, families, and communities as key to effective sustainability education While FG Romania, FG Portugal and FG Bulgaria report significant challenges in family engagement or school leadership, FG Spain 2 report great synergies between the school and parents. Additionally, FG Finland uniquely advocates for roles such as “wandering specialists” to support interdisciplinary teaching without overburdening staff, whereas FG Greece stresses the need for formal frameworks and inclusive pedagogical approaches. These divergences illustrate how varying degrees of institutional maturity, cultural expectations, and systemic support shape how sustainability is approached in educational settings.

The most effective models seem to rely on strong leadership, community alignment, and interdisciplinary collaboration—whereas the biggest obstacles stem from lack of direction, resources, and protected time.

Selection of representative quotes

Notable participant quotes that illustrate the main themes that emerged:

- On teacher dependency and lack of emphasis:

"We try to model respect and cooperation, but it's not part of the formal curriculum. It depends on the teacher." FG Greece

"The emphasis is always on achieving academic success and good grades." FG Portugal

"*It is missing* (sustainability values from curriculum)." FG Romania

- On practical education needs:

"Children need practical skills, not just theoretical knowledge." FG Bulgaria1

"We should take students to recycling plants so they understand the reality better." FG Bulgaria1

"The best way to teach sustainability is through your experience." FG Bulgaria2

"Our experience demonstrated that hands-on practice is one of the most effective ways for acquiring sustainability skills. Actively involving students in various initiatives and projects significantly enhances their understanding and makes learning more meaningful and accessible." FG Bulgaria2

"The most successful practice is to give the students the opportunity to learn from their peers and from other role models." FG Bulgaria2

"The theory is all good and nice but there is no practical side. There is no money for practical applications." FG Romania

"We strive to instill in our students the importance of caring for the environment through everyday actions." FG Spain2

"Students became aware of the environmental impact of human activity not by reading about it, but by exploring it themselves." FG Spain2

"Students are more engaged when they see real-world impacts." FG Türkiye

- On the need for more cohesive approaches that yield stronger internalization of sustainability values:

"We need a value-based approach that is part of the school's vision, not just unique events." FG Greece

"We see sustainability not as an added topic, but as something that runs through everything we do." FG Spain2

"There is no continuity." FG Romania

- On the need for policy support, teacher training and resources

"We need institutional framework, professionals, money …" FG Romania

"In today's fast-changing and digitally driven educational landscape, teachers need continuous training on how to teach more effectively in different subjects. In this context, it is essential that teachers receive targeted training on sustainability education." FG Bulgaria2

"We definitely should have common subjects during which we have to discuss the different dimensions of sustainability. However, I believe that what could be really beneficial for the students is more subject-specific education. For example, if a student feels they need to deepen their understanding in economics, they should have access to more courses in this area. Similarly, if the students are passionate about sustainability, the curriculum should offer more focused content and opportunities tailored to that interest." FG Bulgaria2

- On parental involvement:

"The main obstacle is parents' attitudes." FG Bulgaria1

"If we could establish a school for parents, maybe we could enhance sustainability education." FG Bulgaria1

" *We (also) need the support of parents."* FG Bulgaria2

"Our students are very tolerant. Most of them are quite open to get involved in discussions on various topics such as cultural sustainability and social sustainability. This was achieved by the mutual work of teachers and parents." FG Bulgaria2

"I'm also thinking that it's not only the teacher's responsibility, like, the parents, like, the family at home also plays a big part as well." FG Finland

"I think parents should be educated about it." FG Hungary

- On local challenges

"We collect batteries and caps, but it's not systematic or institutionalized enough." FG Bulgaria1

"But what I feel is the larger problem. One of the potential problems could be like, though the Finnish education curriculum states about sustainability and the importance of it, the school curriculum becomes a very localized thing in Finland. So it depends on the school." FG Finland

"Children love to participate in clearing measures, but they don't have time to think about why these actions are important." FG Greece

"Wastefulness is deeply embedded in the general culture." FG Romania

"The biggest impediment is human indifference." FG Romania

3.3.4 Embracing complexity in sustainability

Across all focus groups, teachers recognize the complexity of sustainability. There is a strong consensus that sustainability represents "wicked problems" characterized by ambiguity, interdependence, and no straightforward solutions. Many participants emphasize the importance of systems thinking, critical thinking and problem solving to enable students to engage with this complexity meaningfully. However, approaches to addressing complexity vary. Some countries, like Bulgaria and Greece, report that complexity is primarily tackled informally or through extracurricular projects rather than being embedded systematically in the core curriculum. Conversely, Finland and Spain illustrate examples where interdisciplinary and multi-dimensional sustainability education is more formally integrated. While promising practices exist, systemic barriers—curricular rigidity, training gaps, and limited support—remain widespread. Addressing these challenges through coordinated policy and practice changes will be critical to advancing effective sustainability education that equips students to navigate and act upon complex global challenges.

Convergences:

There is agreement on the need to expose students to the interconnected nature of sustainability and emphasize critical thinking, systems thinking, and experiential learning. Project-based learning emerges as the most widely endorsed approach for teaching sustainability complexity (FG Bulgaria2, FG Finland, FG Greece, FG Spain2, FG Turkey). It offers students practical, hands-on opportunities to investigate local and global issues, fostering critical inquiry and systems thinking. Examples include initiatives on waste reduction, energy conservation, and biodiversity, often culminating in community engagement or collaboration with local stakeholders. Interdisciplinary projects that blend subjects such as science, economics, arts, and civic education are also relatively common helping students perceive the interconnectedness of sustainability challenges (FG Finland, FG Greece, FG Bulgaria2, and FG Spain2). Teachers across the board value helping students make personal, contextual connections to sustainability (FG Hungary, FG Romania, FG Türkiye), and many noted the usefulness of inviting external role models or organizing reflective discussions to deepen engagement with complex issues (FG Bulgaria2, FG Spain2, FG Romania).

Divergences:

While the overall vision is shared, there are notable differences in implementation depth and curricular integration. Participants from FG Spain2 and FG Finland demonstrate more systematic and integrated practices, often involving interdisciplinary collaboration and institutional support. In contrast, those from FG Romania and FG Greece report that complex sustainability teaching mostly occurs outside the core curriculum or is left to individual teacher initiative. In FG Romania, despite introducing a subject on critical thinking, participants expressed frustration at the lack of curriculum-wide integration. Participants from FG Hungary and FG Portugal stressed local relevance and practical observation, sometimes favoring contextual over theoretical understanding. Meanwhile, participants from FG Spain1 and FG Greece suggested to scale the complexity of sustainability education with age.

Barriers

Despite these promising approaches, teachers across countries report significant barriers. Many educators feel constrained by national curricula that leave little room for integrated, exploratory teaching of sustainability (FG Bulgaria, FG Greece, FG Romania, FG Spain). A pervasive lack of professional development in systems thinking and critical pedagogy hinders confidence and effectiveness in teaching sustainability complexity. Teachers find it challenging to evaluate students' progress in developing complex sustainability competencies due to the absence of clear frameworks (FG Finland).

Key recommendations emerging include enhancing teacher training on systems thinking, interdisciplinary approaches, and critical pedagogy. There is a need to revise the curricula to allow flexibility for integrated sustainability education and cross-disciplinary collaboration, and to develop clear frameworks for assessing sustainability competencies. Incorporating real-world experiences, local context, and role models to connect abstract concepts to students' lives was seen as beneficial.

Selection of representative quotes

Notable participant quotes that illustrate the main themes that emerged:

- On the recognition of complexities and need for critical thinking and interdisciplinarity

"I think like being critical, I think teachers can be critical for what is being sustained, sustainable methods because like now the sustainability becomes like very cool word, especially in commercials and all that like, let's change to electric cars like Tesla, blah, blah, blah, blah, but then like, uh, so after the battery is not working, the battery, how we are going to recycle them, do we just dump them in some landside or, and all these, like, um, solar power system, yes, yes, they, they are nice to put it on the roof, but if, uh, like, it's the community

having the capacity to fix these, like, uh, solar panels, If they are not fixed, then they cannot generate electricity, then they would become waste and all that." FG Finland

"Understanding complexity requires accepting uncertainty as adults." FG Greece

"Today, critical thinking is not yet common in schools. That's basically the problem." FG Hungary

"Critical thinking is key – discuss problems and solutions." FG Portugal

"To teach complexity and system thinking, there is a need for interdisciplinarity, permeability between different subjects, and the integration of learning materials." FG Romania

"We want students to understand that sustainability is not just about trees—it's about how we live and make decisions." FG Spain1

"Sustainability involves uncertainty—we should help students feel comfortable with that." FG Spain1

"When we do interdisciplinary projects, students make more meaningful connections." FG Spain1

"Sustainability isn't just one subject—it's everything." FG Türkiye

- On assessment difficulties:

"And from the teacher's perspective, I also have thought about the evaluation, like, how to evaluate, evaluate, sustainability …" FG Finland

- On rigid curricula:

"Not every subject allows sustainability to be integrated." FG Bulgaria1

"Despite our efforts to teach interdependence, the curriculum places everything in boxes." FG Greece

"Every teacher has its own program. I might glance at what others are doing to establish links, but I have to cover my own material in that one lesson a week." FG Romania

"Foreign language classes offer the most opportunities." FG Romania

- On time constraints:

"They spend a huge amount of time sitting in school." FG Romania

“In the main subjects, like Hungarian, math, and Romanian, there’s a lot of material to cover and a big pressure to have good results at the highschool entrance exam. There’s no time for anything else.” FG Romania

“It’s hard to go into depth when we’re rushing to complete the syllabus.” FG Spain1

“There is never enough time to explore these issues as deeply as we would like.” FG Spain2

- On limited teacher training:

"We need more training and qualified lecturers." FG Bulgaria1

- On the need for practical strategies and tools:

"We need clear and practical strategies, not just theoretical approaches." FG Bulgaria1

"We need tools to simplify complex topics for students." FG Türkiye

- On the need for resources:

“While project-based learning enables students to see the bigger picture, it is challenging to sustain without assistance. Why is this so?” FG Greece

3.3.5 Envisioning sustainable futures

Convergences

Across the ten focus groups, a strong convergence emerged around the use of creative and project-based learning as the primary method for engaging students in futures thinking related to sustainability. Teachers in multiple countries described activities such as designing eco-friendly cities, constructing models of sustainable communities, and developing green products. These projects often allowed students to integrate knowledge from different subjects while using their imagination to explore long-term solutions. Scenario-based learning also featured prominently, helping students consider the consequences of current actions on future outcomes. Examples included imagining climate scenarios 50 years from now (FG Bulgaria), constructing ideal future towns (FG Greece), and envisioning carbon-neutral schools (FG Turkey).

A second widely shared approach was the emphasis on experiential and real-world learning. Teachers across the board stressed the importance of moving beyond abstract lessons to hands-on activities that made sustainability tangible. “Green school” campaigns, clean-up

events, and local sustainability forums were cited as meaningful ways to engage students. Others brought in alumni or experts to discuss future careers or sustainability challenges, helping students connect long-term thinking to real-life aspirations. Role-playing activities, such as taking on the role of a mayor, were also used to build empathy and decision-making skills while fostering a systems-thinking mindset.

Educators repeatedly highlighted creativity, empathy, and systems thinking as foundational competencies for futures thinking. These qualities were nurtured through open-ended tasks that encouraged students to envision alternative futures and explore trade-offs. Teachers agreed that such exercises not only fostered critical thinking but also helped students grapple with the uncertainty and complexity of global challenges. They emphasized that imaginative practices allowed students to develop resilience and adaptability—key skills for navigating unpredictable futures.

Divergences

Despite a shared interest in these practices, many educators noted that the integration of futures thinking into the curriculum was still informal and uneven. While some schools, such as those from FG Finland or FG Spain2, are beginning to incorporate futures thinking into institutional frameworks, in most contexts it remains dependent on individual teacher initiative or external projects. Several focus groups reported that these activities were largely extracurricular or tied to temporary, grant-funded programs rather than being embedded into the educational system.

Participants also shared a wide range of challenges and obstacles. Nearly all focus groups reported curricular rigidity and time constraints as key barriers, making it difficult to prioritize exploratory learning or imaginative exercises. Teachers frequently cited a lack of formal assessment tools for creativity and long-term visioning, which in turn reduced institutional recognition and support. Resource limitations, including outdated materials and insufficient digital infrastructure, were mentioned in FG Bulgaria, FG Hungary, and FG Portugal. Several teachers also noted emotional and psychological challenges among students—particularly in FG Romania and FG Finland—where anxiety, apathy, or a fixation on dystopian narratives made it harder to foster optimistic, solutions-oriented thinking.

Distinct differences were also evident across national contexts. FG Finland and FG Spain2, for example, have made strides toward formalizing futures thinking in school policy and pedagogy, supported by EU-funded initiatives and whole-school approaches. In contrast, countries like Greece, Hungary, and Portugal seem to rely more heavily on teacher-driven innovation. There were also differences in methodological emphasis: participants from FG Finland highlighted design thinking and hybrid models of education, those from FG Portugal explored gamification and smart technology, and the teachers from FG Romania placed a strong focus on building resilience and exposing students to real-world role models.

Needs identified

When it came to support needs, teachers across all groups expressed a desire for professional development opportunities that would provide practical tools, methodologies, and confidence to implement futures-oriented learning. There was broad interest in gaining access to international frameworks, scenario-planning guides, interdisciplinary project templates, and best practices from other schools. Many called for more structured resources, such as classroom-ready materials and visual mapping tools. Others asked for institutional support in the form of dedicated time for interdisciplinary collaboration, curricular flexibility, and recognition of imaginative or speculative work as legitimate educational outcomes.

Selection of representative quotes

Notable participant quotes that illustrate the main themes that emerged:

- On the need for envisioning sustainable futures

“Futures thinking is an important ability because it helps our children to take care not only for themselves, but also for the community and for humanity.” FG Bulgaria2

“Of course we talk about the future,” FG Romania

“Teaching students to think ahead and imagine alternative futures is not easy—but it’s essential.” FG Spain2

"It should be part of the curriculum." FG Hungary

- On practical approaches

“We need practical lessons; taking children to recycling plants would help them envision what sustainability really looks like.” FG Bulgaria1

“Projects that use recycled materials engage students deeply, making sustainability tangible for them.” FG Bulgaria1

"I was thinking it's important to envision the future and how are we looking at it, but then I think in order to do that, we should be able to have an understanding and a feel for what's happening around us presently so that you could see where do we want to go and is it possible to go there? Is it possible to reach there?" FG Finland

"It is important to introduce new technologies to students in vocational education. So, I not only introduce them to traditional technologies, but also to modern innovative technologies, which are not necessarily a subject requirement, but I also highlight these opportunities." FG Hungary

“Sometimes, just analysing today’s headlines is enough to spark meaningful debate about tomorrow.” FG Spain2

- On the important role of creativity and imagination

“We don’t know what it will be like. Let them be curious.” FG Romania

“The imagination is where change starts. We just don’t give it enough space in schools.” FG Greece

“Creativity is the key for thinking about the future.” FG Romania

“We need to give students permission to imagine, not just memorize.” FG Spain1

- On time constraints

“Futures thinking is powerful, but we rarely have time for it.” FG Spain1

"Here, time is the most critical factor in any educational institution. If you don't have the time, you lose the best tools." FG Hungary

- On rigid curricula

“We encourage students to imagine their future, but we’re trapped in the present timetable.” FG Greece

“The curriculum doesn't always allow us to implement creative and exploratory approaches.” FG Bulgaria1

"So, maybe for the curriculum and those kinds of education materials … should support that kind of changeability if something happens." FG Finland

- On the challenge to transform it into action

"It's nice to think and dream about sustainability and green planet and coal neutrality in 2035 or something, I don't know what the actual goal is nowadays, but they are so grandiose and so far away, it's really hard to invest into it unless you are, like, already motivated to be sustainable and think green." FG Finland

- On attitudinal barriers

"To teach future thinking to students is a very difficult task because the consumption culture already taught them that they can have and get rid of anything at any time." FG Bulgaria2

"but the dystopia is quite contrary, so I think many, many young people, not only today, of course, it's like a recurring phenomenon, but today can be a lot of, like, pressures and a lot of reasons to be, like, a dystopian thinking, and that might be also, can be also, like, setback" FG Finland

"Our students know what future they want for themselves! Each one of them wants to be the boss and wants to be rich." FG Romania

"They're not interested." FG Romania

"Life just goes by, always fearing something." FG Romania

- On the need for tools and resources

"We need more tools to make futures thinking tangible and relevant for our pupils." FG Spain2

- On the links to resiliency

"They can't figure things out in nature." FG Romania

"Let them fall, it's okay." FG Romania

"They can't even walk for five minutes. They can't walk, let alone run." FG Romania

3.3.6 Acting for sustainability

Convergences

Across all focus groups, there is a broad awareness among teachers and students of the importance of sustainability and the various ways schools can take action. Recycling initiatives, clean-up events, and green campus projects were widely mentioned. There was a convergence of views on teacher motivation and role as change agent. Teachers in Bulgaria, Spain, Greece, Romania and Portugal especially emphasized a strong sense of personal responsibility and motivation to act as role models, despite systemic limitations. In several focus groups (e.g., FG Spain2, FG Hungary, FG Finland), student-led initiatives and peer learning were recognized as powerful engagement tools. FG Finland and FG Spain2 highlighted student-teacher synergy, where student enthusiasm and teacher leadership reinforce each other. FG Spain2 and FG Hungary provide examples where students propose improvements or initiate projects. FG Romania and FG Hungary underline how teacher motivation fluctuates.

There was a consistent call for structured institutional and policy support to embed sustainability more deeply into school culture. Teachers in FG Bulgaria, FG Greece, FG Romania, and FG Finland emphasized the importance of formal policy frameworks, leadership backing, training, and adequate time and resources. Most groups recognized that without external reinforcement—from school leadership, local authorities, or government—sustainability education and action would remain fragmented or superficial.

There was a strong consensus among the focus group participants that curricular activities alone are insufficient, and that extracurricular and practical activities are essential. Focus groups like FG Bulgaria2, FG Greece, FG Finland, FG Portugal, and FG Spain2 emphasized the value of experiential learning, project-based activities, and student-led initiatives.

Participants in FG Bulgaria1, FG Romania, and FG Hungary particularly highlighted the significant influence of parental attitudes and community culture on student motivation. They considered that when sustainability efforts are not mirrored at home or in the broader society, their impact is diminished. Many noted that parent engagement and shared responsibility are critical for reinforcing sustainable habits in students.

There were a series of common structural issues reported such as time constraints, rigid curricula, insufficient funding and logistical support and lack of coordination across departments or levels. Attitudinal barriers, such as apathy or lack of perceived relevance, were also a shared concern (see Table 3).

Table 3. Barriers to sustainability action, a thematic overview

Barrier Focus Group	Structural (Time, Curriculum)	Lack of policy & coordination	Resource constraints	Over reliance on teacher initiative	Cultural / Attitudinal	Parental Misalignment
Bulgaria1	✔	✔	✔		✔	✔
Bulgaria2	✔	✔	✔		✔	✔
Finland	✔	✔	✔		✔	
Greece	✔	✔	✔	✔	✔	
Hungary	✔		✔		✔	
Portugal	✔					
Romania	✔	✔	✔	✔	✔	✔
Spain1	✔	✔		✔		
Spain2	✔		✔			
Türkiye		✔	✔			

Divergences

Countries varied in their demand for and use of tools to assess sustainability impact. While FG Spain and FG Greece expressed a need for clear frameworks and tools to measure progress, FG Portugal proposed integrating hands-on approaches (e.g., storytelling with robotics) as an implicit form of assessment, focusing more on engagement than formal evaluation.

FG Portugal and FG Finland showed stronger integration of sustainability into interdisciplinary or project-based curricula. In contrast, FG Romania and FG Bulgaria1 highlighted struggles to fit sustainability topics into the formal curriculum, indicating a lack of systemic integration and flexibility.

Some focus groups, such as the ones in Romania and Hungary, emphasized the cultural resistance to sustainability—teachers cited parental attitudes that actively discourage sustainable behaviors, such as litter-picking. This contrasts with FG Spain and FG Portugal, where community culture was more often seen as supportive or at least neutral.

FG Romania uniquely emphasizes teacher burnout and its impact on motivation, viewing it as a major determinant.

FG Finland discussed students' limited political power due to age and voting restrictions, and the need for democratic school structures. Other focus groups rarely mentioned student governance explicitly, though FG Spain2 and FG Greece suggested strong student leadership in project roles.

FG Romania presented a more culturally skeptical outlook, suggesting deep-rooted wasteful habits that might only change through crisis. FG Finland, by contrast, discussed critical consumer awareness and the risks of "greenwashing," showing a more nuanced civic mindset.

While FG Portugal introduced innovative ideas such as "Sustainability in a Box" and AI-linked sustainability teaching (robotics, storytelling), other countries focus more on traditional environmental campaigns, e.g., cleanups, recycling, or gardening.

Despite constraints, schools have implemented a wide range of successful sustainability actions—from student-led councils and recycling campaigns to innovative projects like Finland's "50-50" energy-saving program, Portugal's "Lab in a Box," and Romania's "Lábbusz" walking bus initiative (see Table 5) These projects not only foster sustainable behaviors but also build community, leadership, and practical problem-solving skills among students.

Table 4. Sustainability actions reported in the focus groups

FG Bulgaria1
• Recycling initiatives (caps, batteries, plastics). • Practical sustainability projects in technical schools. • Environmental actions: Regular school events like yard clean-ups and recycling drives clearly influenced student behaviors positively. • Sustainability forums: Local-level discussions promoting student engagement with sustainable development and social responsibilities. • Recycling-based projects: Creation of artistic and practical items using exclusively recycled materials.
FG Bulgaria2
• Environmental awareness weeks “To clean our school for one day”. • Recycling campaigns • Tree-planting activities • Project during which students had to review various case studies and propose solutions for future environmental issues that might occur in their communities. • During organized festivals students and their parents had to represent their culture through cuisine, dances, traditions and practices. Some students from foreign countries also shared some good sustainability practices from their countries. • A scenario-based activity implemented during the Tutor’s time. The students had to imagine what would be the situation on our planet after 50 years taking into account climate change. When presenting the various scenarios, students had to suggest their own solutions to the common scenarios.
FG Finland
• Student councils in Finnish schools have power to influence decision-making and initiate action to a certain extent, their responsibilities and influence differ from school to school. • 50-50 Method: One municipality in Finland employs a "50-50 method" where a

team of facility managers, teachers, and students identifies and implements energy-saving measures. 50% of the money saved can be retained by the school.

- Repair workshops: An NGO in Finland offers a “sustainability service-car”, a student-led program where students learn about repair tools and use them to repair things in their school, fostering practical skills, resourcefulness, and community building. Another school in Eastern Finland has a similar crafts teaching programme where students are encouraged in the school to repair their personal amenities like their motorbikes and mopeds, by providing reparation tools within the school. This saves money and encourages fixing rather than buying new.

- Measuring food-waste: Schools and universities in Finland are regularly measuring everyday food waste and regularly sharing it with consumers by displaying in student restaurants.

- Steiner School Initiatives: The Steiner School in Jyväskylä has various sustainability projects, including connecting children with the outdoor environment through activities like outdoor art classes to foster observation of nature.

- The "World at Play" (a collaborative project between the University of Jyväskylä, Jyväskylä Art Museum and selected schools in Jyväskylä) project involved students representing math, science, and sustainability concepts through art, fostering appreciation for nature. Students were prompted to identify a sustainability problem and envision a solution, often through creating artistic representations like robots for garbage collection or sustainable houses.

- School with sensors to measure consumption: Some schools in the municipality of Joensuu use sensors to measure electricity, water, and solar power consumption. This data is then fed into a digital learning environment and used to create physics and math lessons on energy conservation.

- The Ministry of Education and Culture in Finland issues guidelines for addressing specific issues they find relevant and important to address for school age pupils.

FG Greece

- Beach and neighborhood clean-up events

- Zero-waste week with the entire school community, including the parents

- School gardens
- Plastic reduction awareness campaigns
- "Green Ambassadors" program where students served as peer educators and encouraged sustainable behavior.

FG Hungary

- Collection of recyclable bottles: The student council has put out paper crates labelled "no litter" and collects hundreds of recyclable bottles per day for use by the student council. This is a very substantial amount.
- Green competition for teams to develop projects to encourage energy saving within the school. The prizes were motivating for the students, resulting in very good proposals.
- An idea fair is launched every year, where anyone can submit proposals and substantial cash prizes are awarded to the winners who submit viable proposals.
- Yearly environmental measurements measuring noise and other pollution within the school
- Permanent Eco-School, which entails a number of compulsory tasks, such as growing crops in the gardens tended by the students and an annual tree planting project. Waste is collected separately and dead batteries are treated separately.
- The celebration of special days, such as Earth Day, when students actively participate in tree planting and sustainability activities. One respondent's school also has an energy saving day, where they use as little energy as possible and measure how much the school saves on that day. Lights are turned off, computers are not used, etc.
- Clothes exchange and collection (recycling clothes, donating them to the needy)
- Replacing light fittings with energy-saving ones
- Visiting incinerators and wastewater treatment plants.
- Measurement of air pollution in the context of technology lessons.

FG Portugal

- Smart School Garden: 2023/24 pilot with two 8th-grade classes; in 2024/25, with council funding, expanded to other classes (1st Cycle and 8th grade). Activities: building boxes for plants / creating ecosystems / micro:bit sessions / programming / soil humidity and pH / 3D modeling as an arts integration to identify species and monitor their evolution throughout the year. Students take products home and share them with families.

- Lab in a Box for different subjects: is an innovative project that democratizes experimental science education, promoting scientific literacy and critical thinking from an early age. The project provides accredited training and free scientific experimentation kits to teachers, enabling each educator to carry out hands-on activities directly in their classroom. Lab in a Box has built strong partnerships between schools, universities, and research centers, promoting the creation of active learning communities. In addition to training, annual meetings are organized where teachers and students share best practices and experiences, strengthening the educator network.

- Oeiras Educa – with the support of Oeiras Municipality and with partnership with the local scientific community, every child has the opportunity to visit for free different institutions, and do very broad hands-on workshops

- Everyday practices like handwashing, paper recycling, use of stories and songs to encourage appropriate behaviors.

- Marine animals' exhibition using recycled materials, great parental involvement.

- Use of web apps to identify plants.

- Smart Cities – an IST-led initiative with science clubs empowering students to design future-ready cities using sensor technologies that promote environmental sustainability, efficient resource use, and improved quality of life.

- Science clubs Meetings - play a vital role in empowering students to explore real-world environmental challenges, develop innovative solutions, and become active contributors to a more sustainable future.

- Living Lab – mini school forest with autochthonous species.

- AI class plan – robot story "save the forest," build a mat for the robot to navigate and avoid destroyed areas. Promotes dialogue and motivation to address sustainability through stories

FG Romania

- Green Week
- School Differently Week
- In Nyárádszereda, at the Deak Farkas school, the “Lábbusz” (walking bus) mobility project involves students, parents and teachers.
- The Student Association organizes school fairs and supports school-related consumables.
- ECOBIO Székelykapu (Szekler Gate) - Zöldkapu (Green Gate) project: students complete a series of tasks during the school year and then spend a week each summer at a camp on the Adriatic coast.
- Visit to the waste management facility
- Litter pick-up
- Visit to the zoo
- Workshops like “The little electrician”
- “Raise a tomato plant” homework for the summer

FG Spain1

- Challenge from the Olot government about sustainability
- Energy-saving campaigns
- VET students collaborating with local businesses on sustainability projects
- Students imagined the world in 2050 and presented solutions to future sustainability challenges, such as river water analysis or CO2 detectors .
- SUMMEM: focuses on practical and collaborative learning, using real-life challenges and social issues to foster reflection, critical thinking, and responsibility in students. SUMMEM seeks to develop key skills such as communication, research, and adaptation to different contexts.
- School-wide book reuse campaign that encouraged students to donate and exchange used books, promoting both environmental care and solidarity.
- Clothing donation project, which raised awareness about consumption and social responsibility while fostering empathy and cooperation among students.

FG Spain2

- Book Recycling: Textbooks are purchased every four to five years and are circulated among students across cohorts, minimising unnecessary purchases.
- Digital Communication Platform: The school operates a digital platform used for sending academic reports, facilitating communication with families, processing payments, and other administrative tasks. This system significantly reduces the need for printed documents.
- Waste Separation: On-site bins are available for sorting different types of waste, including paper, batteries, and plastics.
- Waste-Free Snack Policy: Students are not allowed to bring snacks wrapped in aluminium foil. Instead, reusable containers such as Tupperware must be used.
- Use of Personal Towels: Pupils bring their own towels to dry their hands and faces, thereby reducing paper waste.
- Educational Visits: External experts, such as representatives from the local water treatment facility in Reus, are occasionally invited to engage with students. For example, storytelling sessions are used to raise awareness about responsible water use.
- Reusing Classroom Materials: Materials from one academic year are stored and repurposed for use in subsequent years.
- Reuse of Paper: Used paper is collected in cardboard boxes for future use whenever feasible.
- School gardens, themed environmental days, and recycling workshops: These activities encourage students, staff, and families alike to take an active role in caring for their surroundings, reinforcing the idea that sustainability is a shared responsibility.
- Interdisciplinary project focused on the issue of plastic islands in the ocean. Through this initiative, students were introduced to the environmental consequences of human consumption, many for the first time. The project prompted pupils to investigate the topic through research and collaborative work, leading to a more profound and personal awareness of the issue. As the teacher noted, these kinds of activities allow students to connect abstract content with real-life concerns, ultimately cultivating more responsible attitudes towards the environment.
- The growing use of learning scenarios (“situaciones de aprendizaje”,) allows for

the integration of key competencies around real-life challenges. These scenarios enable students to engage with issues such as water use and pollution in ways that cut across disciplinary boundaries and foster systemic thinking. Pupils are encouraged to explore the causes and impacts of forest fires linked to heatwaves or to investigate the role of urban transport in deteriorating air quality. These learning scenarios allow them to connect local phenomena with global trends, while also cultivating skills such as argumentation, empathy, and responsible decision-making. Through these processes, students begin to develop a sense of agency and the ability to articulate visions of a more sustainable future.

- The school's decision to cancel a long-standing end-of-year water play activity, traditionally involving students being sprayed with hoses. In light of drought warnings issued by regional authorities, the school chose to discontinue the event. Rather than presenting it as a loss, this decision was reframed as an opportunity to collectively reflect on the importance of responsible water use and the broader implications of climate change. In doing so, the school demonstrated how sustainability-related values can be reinforced through institutional choices that model long-term thinking.
- Current news articles on topics including species extinction, marine plastic pollution, and the increase in extreme weather events are drawn from digital and print media and used as starting points for student-led research and classroom debates.

FG Türkiye

- Student-led campaign to reduce plastic waste in the cafeteria.
- Cross-disciplinary project on climate change and economics.
- Students design future scenarios through creative projects.
- Student project envisioning a carbon-neutral school.
- Community garden project involving students and locals.
- Waste reduction campaign
- Multilingual resources for diverse students.

Focus group participants identified a series of shared priorities:

- Empowering both teachers and students through practical, meaningful engagement.
- Addressing structural obstacles like time, funding, and curriculum rigidity.
- Fostering community and parental alignment with school sustainability values.
- Developing institutional policies and support mechanisms.
- Building capacity through teacher training and peer collaboration.
- Designing monitoring and impact assessment tools to evaluate long-term outcomes.
- Sharing of innovative educational tools and interdisciplinary practices
- Formalize student agency (e.g., student councils, democratic school environments).

Despite differences in local conditions and institutional structures, there is strong consensus among educators across all focus groups that schools have both the potential and responsibility to foster sustainable behavior. However, realizing this potential requires aligning individual motivation with systemic support, cultivating consistent reinforcement from families and communities, and enabling students to become active agents of change. The key lies in bridging the gap between awareness and action through integrated curricula, institutional backing, and cross-sector collaboration (Table 5).

Table 5. Support needs identified by the focus group participants

Focus Group	Key Needs Identified
FG Bulgaria	Policy guidelines, teacher training, community/parental involvement, assessment tools National/local support, funding, strong parental involvement
Finland	Government policy support, incentives, new educational roles (e.g. learning coaches)
Greece	Time in curriculum, external networks, policy legitimation of sustainability
Hungary	Infrastructure, curriculum reform, teacher role-modeling, educational materials (smart booklet)

Portugal	Curriculum space, interdisciplinary resources, local partnerships, professional development
Romania	Curriculum space, secure funding, cultural reinforcement, legislation, consistent societal messaging
Spain	Frameworks for assessment, tools, inter school collaboration Time, professional development, peer exchange, assessment tools
Türkiye	Leadership support, better coordination, assessment mechanisms

Selection of representative quotes

Notable participant quotes that illustrate the main themes that emerged:

- On the need for sustainability policies and strategies

"Schools lack clear sustainability policies, and this prevents us from acting more decisively." FG Bulgaria1

"And like, let me, like, organize my thoughts, I completely agree that if we want, like, to achieve something big, actually meaningful, it must be reinforced and supported by the government, democratic government." FG Finland

"Much can be done with little, but not everything can be done by oneself." FG Greece

"Sustainability is valued in theory but not supported in policy." FG Greece

- On empowering the students

"So I think the democratic values are really at the center of political agency." FG Finland

"student voice maybe, I don't know, student council, they can also be a way to do things, like, from the student point of view, yeah, initiated by the students, yeah" FG Finland

"But there is also this problem, especially with, like, students who are underage, they can't vote yet. how can they make any difference if they have no political power themselves?" FG Finland

"When students take the lead, it is not simply an assignment anymore, but a mission." FG Greece

“It’s not just about following rules. Students are starting to ask questions, propose changes, and take responsibility.” FG Spain2

- On motivation for action

"They must have motivation and reason to do something. So how do we give these selfish little students some motivation they can actually get? Let me get back to the example about the fix in their own car. So small victories, like teachers that can gives some sort of flexibility and possibilities for those students to like, uh, get some personal benefit for being sustainable so they can feel it." FG Finland

"Yeah, actually, you can collect a lot of credit points for consuming more. Can you collect some credits, maybe from the government, some points for consuming less? Also, can I get some “trust points” or credits for coming and helping you work in your backyard? There are credits for academic achievement and more consumption but no credit for community engagement, adopting sustainable practices etc." FG Finland

“We may not have all the resources, but we do have passion, and that’s where transformation begins.” FG Bulgaria2

“When students see they can make a difference, even with small actions, their mindset changes completely.” FG Bulgaria2

- On resource needs

"If the idea is presented to the schools and the department as, okay, we need a specialist, then I believe just because budget reasons, it would become something like, okay, we have this new information and research material specialist, let's put it to the work group this, okay, you teachers choose whom of you is going to become our “Intel” department in the school. Yeah. and the teachers would just go mad about it, another extra work without getting extra paid." FG Finland

“The motivation is there—but we need more time and support to turn that energy into long-term initiatives.” FG Spain2

- On the value of practical activities

“We create items from recycled materials—this action motivates students, teaching sustainability practically.” FG Bulgaria1

"By constantly experiencing sustainability in their own environment, I help them to get in touch with what they can make personally, because it's no use talking about global warming if they don't know what it's about." FG Hungary

"We would like to raise awareness of the importance of selective waste collection and the importance of keeping our environment clean, even within the school." FG Hungary

"The teacher is the driving force." FG Portugal

"We collect it in vain (selective waste), where does it end up?" FG Romania

"Students feel empowered when they see results—like less waste or lower energy use." FG Spain1

"When students realise that their actions have a direct effect, they become more engaged." FG Spain2

- On the need to scale up of the sustainability actions

"We do a lot, but sometimes it feels invisible. We need to share these efforts more." FG Spain1

"Small actions lead to big changes when everyone participates." FG Türkiye

- On the critical role of parents

"Parents often obstruct our good initiatives; their mindset needs changing." FG Bulgaria1

"We can teach sustainability through curricula and extracurricular activities, however if the children do not see even the basic elements of sustainable behavior at their homes, whatever we do our work is useless." FG Bulgaria2

"The active involvement of parents in the learning process is our biggest plus. If we can motivate the parents to participate and take action, our work with the children is almost done." FG Bulgaria2

"Engage the parents, and you will definitely have behavior change in their children." FG Bulgaria2

"Maybe it also depends on age, because younger generations have accepted that they have to take care and stop polluting the planet and they are striving to do so, while older generations still need to be told how to do the right thing and to take cues from the young." FG Hungary

"Family background is really important." FG Romania

"It might be the parent who throws away the trash first." FG Romania

3.3.7 Inclusive education

Convergences

Across the focus groups, participants noted that inclusiveness in education is acknowledged as a goal, and that there are clear legal requirements in this regard, but the extent and success of inclusive practices vary widely. Structural and resource limitations were prevalent, including lack of trained staff and accessible infrastructure. Language barriers and culturally irrelevant curricula were recurring themes.

Vulnerable groups widely recognised as groups requiring targeted inclusion efforts include students from ethnic minorities, those with disadvantaged socioeconomic backgrounds, students with special educational needs, and linguistic minorities.

FG Finland, FG Greece, FG Hungary, FG Bulgaria2, and FG Spain2 described multicultural and experiential learning activities such as cultural weeks, project-based learning, and festivals where students share their traditions—promoting both inclusion and sustainability.

FG Finland (three-tier support), FG Spain2 (multi-professional collaboration), and FG Hungary (consultation hours, peer group activities) emphasized frameworks for tailored learning and personalised support systems.

FG Greece, FG Romania, and FG Bulgaria1 shared examples of community engagement, namely working with community leaders and families to enhance participation among vulnerable students. Parental attitudes and community engagement were widely considered critical factors influencing inclusiveness.

There was a strong consensus among the participants that ongoing professional development focused on inclusion and cultural competence is necessary.

Divergences

FG Spain2 and FG Finland showcased the most institutionalized and systemic approaches to inclusive pedagogy. FG Bulgaria2 and FG Portugal reported fewer structured inclusive practices, with some educators struggling to provide examples.

FG Hungary relied more on motivated individuals and informal teacher efforts rather than institutional mandates or frameworks.

In FG Portugal a strong critique was raised against the exam-focused system, particularly in 2nd Cycle, which is described as exclusionary and inaccessible to many students who haven't had the chance to integrate linguistically or culturally. While also being critical of the exclusionary effects of exam-focused systems, participants from Romania described a

measure that is meant to improve on this situation by setting aside places in high-school classes for Roma ethnic students and students with special educational needs.

FG Romania mentions a peculiar situation in which due to demographic shifts, ethnic Hungarian students are the minority that needs integration among the ethnic Roma students. They also identify a particular religion as a self-exclusion factor in the context of certain schools.

The decline in participation and inclusion at secondary levels is more explicitly noted in FG Bulgaria, FG Greece, and FG Portugal, whereas some other countries emphasize broad inclusion without age-specific distinctions.

Inclusive practices reported range from culturally sensitive projects, community engagement, heritage language classes, differentiated instruction, and strong school-community partnerships. Some schools have developed mentorship programs, use hybrid or remote learning models, and employ language mediators to support immigrant students (Table 6)

Table 6. Inclusive practices reported in the focus groups

FG Bulgaria1
Deep integration of vulnerable groups into school life, providing extra care and educational support compared to standard schools ("Our students are more cared for than children in elite high schools").
Practical extracurricular initiatives, such as sustainability projects, recycling activities, and hands-on workshops, successfully engaging diverse learners.
Collaboration with community leaders, including meetings with informal leaders (pastors, community representatives) to improve attendance and engagement among Roma students.
FG Bulgaria2
Most of the participants shared that they cannot present a good inclusive practice in their school. One participant shared a good practice used for including students with cultural backgrounds. During organized festivals students and their parents had to represent their culture through cuisine, dances, traditions and practices. Some students from foreign countries also shared some good sustainability practices in their countries.
FG Finland
Heritage Language Classes: In Finland, children and families have a right to ask for a teacher of their heritage language irrespective of what part of the world the families come from. Once there are at least five students expressing a need to learn a particular language, the municipality provides for a teacher.
The three-tier support system in Finland: Every child has a right to basic, intensified or special support based on the expressed need as well as discussions with parents and the school psychologist. Every school provides for one or more special education teachers, and in addition, every teacher is trained for providing differentiated support.
Culture weeks: Some schools and kindergartens across in the capital region in Finland have started to have “culture weeks”, one whole week dedicated to a particular community's culture, when students learn about cultures outside of Finland by participating in activities from a specific culture and possibly experiencing food and other cultural aspects of it.
Hybrid Learning Models: The University of Lapland’s pre-existing hybrid and remote teaching model allowed for flexibility and inclusion even before the COVID-19 pandemic, accommodating students from remote areas. This model also helps address the issue of Sámi language education when teachers are primarily located in Lapland.

FG Greece
Differentiated instructional strategies, multilingual projects, and partnerships with community-based institutions to co-create learning content.
Sustainability work was integrated with cultural heritage festivities to make students of different backgrounds contribute their traditions and environmental habits.
Close collaboration with social services to provide access and participation for children from vulnerable family backgrounds.
Participation of school psychologists in cases of special education
FG Hungary
Where it is possible in the timetable, there are several consultation hours per week, which can be used freely. In addition, teachers tend to try to form groups of students and make sure that everyone is involved in project work, or even that students make videos of a practical exercise. These videos can be edited in a few minutes, even during breaks, and taken home as a souvenir to show at home. It can also be important that what they didn't understand or recognise then and there, they can recognise and understand later by watching these short videos.
Drama games for sensitization
Code of ethics for inclusion
FG Portugal
Language mediator (in secondary level) for recently arrived students, whose maternal language is not Portuguese, but with few contact hours per week with the students.
FG Romania
Reserved places in high school classes for students with Roma ethnicity and students with special educational needs. A separate entrance exam is organised for these places.
Funding opportunities for the Green Week activities made possible for children who previously had no opportunity to go on trips, to participate in such events.
Teacher initiative: One disabled homeschooled student was introduced to a class of students. Students drew pictures as birthday gifts, shared food, had meaningful conversations, and were included in a farewell ceremony.

FG Spain2
The school has implemented a number of inclusive practices that make sustainability education accessible to all learners. These include the consistent application of support measures tailored to individual student needs, regardless of their abilities or backgrounds. The teaching staff works closely with other school professionals—such as guidance counselors, therapeutic pedagogy specialists, and social integration technicians—to provide comprehensive and coordinated support. This multidisciplinary approach enhances the effectiveness of inclusive strategies within and beyond the classroom. Furthermore, teachers have received specific training on inclusive education. This has equipped them with the necessary pedagogical and methodological tools to respond effectively to student diversity. The school community's commitment to equality of opportunity ensures that no student is left behind in any learning process, including sustainability education.
FG Türkiye
Multilingual resources for diverse students.

Opportunities for improvement across contexts focus on:

- Curriculum reform to include diverse cultural perspectives and sustainability themes.
- Teacher training on inclusion, cultural competencies, and differentiated instruction.
- Increased funding and human resources to provide continuity in support and personalized support.
- Greater community and parental engagement to reduce resistance.
- Infrastructure upgrades for accessibility.

Selection of representative quotes

Notable participant quotes that illustrate the main themes that emerged:

- Framing of inclusiveness

“Inclusion of every student despite their background is important for making relevant sustainability solutions.” FG Bulgaria2

"Inclusion can be regarded as a value of sustainability—not as an agenda in itself." FG Greece

"Our most important work is done when we connect sustainability to students’ lives and cultures." FG Greece

"There are students with different abilities who need personalized education." FG Hungary

“It is a complex thing.” FG Romania

- Practice of Inclusiveness

“We integrate absolutely all children because they are vulnerable—we care for them as if they were our own.” FG Bulgaria1

“We recently invited informal leaders from the community to help us attract and retain students in schools.” FG Bulgaria1

“We can create an environment in which all students feel they belong. This creates not only inclusiveness, but this creates a sustainable community.” FG Bulgaria2

"We try to provide every support." FG Hungary

“There aren’t any particularly serious problems with Roma children … Roma children don’t feel excluded.” FG Romania

“These acts of awareness-raising and inclusion show that, ultimately, students are shaped by what they experience in school.” FG Romania

“The support system is being abused — they are being given money so they attend school, but they don’t want to study and don’t want to go to school.” FG Romania

- Lack of inclusiveness

“There is almost no inclusiveness practice in high school.” FG Portugal

“There is little discussion on diversity.” FG Portugal

“The exams are not inclusive.” FG Portugal

“It is not the Roma children that need to be integrated but the Hungarian; hardly any Hungarian children are being born anymore — maybe one or two.” FG Romania

“There are communities we are not proud of … and parents withdraw their children from such environments.” FG Romania

- Parental misalignment

“Parents sometimes obstruct good initiatives, lacking understanding of teachers' intentions.” FG Bulgaria1

- Barriers

"The same problem … if the school buildings are so old that there is some problem with the air and those with more sensitive physiology cannot attend because they just choke in the classroom. In the end, exclusion." FG Finland

"And a lot of other ways in terms of abilities, language, culture, that their culture is not represented in the things and things being talked about in the classroom and hence they don't belong to a classroom." FG Finland

"There has been some problems considering Sámi people who live in southern part of the country, since by law they are supposed to have a possibility to learn their respective, inter-respective culture, their, like, subjects, but only people who are actually capable to do that are working in the University of Lapland." FG Finland

"We have students who are passionate about environmental concerns but cannot join in the conversation due to language or other barriers." FG Greece

"Teacher overload is the main obstacle." FG Hungary

"The emphasis is always on achieving academic success and good grades." FG Portugal

"We're supposed to win at the Olympics and be inclusive at the same time". FG Romania

4. Reflections and opportunities for action

Across the ten focus groups, a clear and cohesive flow emerged between the cross-cutting themes, identified barriers, pressing needs, and proposed opportunities for action. Rather than appearing as disconnected points, these elements formed a logical progression, with each discussion naturally building on the last. For instance, frustrations with systemic constraints often led to reflections on specific barriers, which in turn prompted participants to articulate concrete needs and suggest actionable solutions. This continuity indicates not only a strong internal coherence within each focus group but also a striking convergence of ideas across the different sessions. The consistent patterns suggest that participants—despite coming from varied contexts—shared a common understanding of the challenges and potential pathways forward, underscoring the depth and maturity of the dialogue around sustainability education and inclusion.

4.1 Cross cutting themes

A number of recurring themes emerged from the focus group discussions, reflecting systemic and structural challenges that affect the integration of sustainability and inclusiveness in education. These themes are interconnected and illustrate the complexity of embedding sustainability across educational systems.

Theme 1. Frustration over the gap between policy vision and classroom practice

A significant cross-cutting theme was the persistent struggle between theoretical sustainability ideals and the practical realities of implementation. Participants consistently expressed frustration over the disconnect between ambitious national or international sustainability policies and the realities of classroom implementation. This tension was evident in discussions about curriculum design, teacher workload, resource limitations, and governance.

Theme 2. Multidimensionality of sustainability

Although predominantly the environmental dimension of sustainability was the most visible, there was widespread recognition of sustainability as a broad concept that spans ecological, social, economic, and cultural dimensions. Participants emphasized the importance of integrating these aspects holistically, often linking sustainability with themes such as equity, fairness, student voice, and inclusion.

Theme 3. Emphasis on values and futures orientation

Underlying many discussions was a shared belief that sustainability education must be grounded in core values such as justice, empathy, cooperation, and future thinking. These values were seen as essential to fostering inclusive, ethical, and action-oriented learning environments. Equitable participation emerged as a key concern, with particular emphasis on ensuring sustainability education is accessible to all students. This includes attention to vulnerable groups such as ethnic minorities, migrant learners, and those with specific educational needs, stressing the need for differentiated, culturally sensitive approaches.

Theme 4. Teacher dependency, motivation, overload and training

The success of sustainability initiatives was seen as highly dependent on individual teachers. Participants noted that without broader systemic support, efforts may falter when motivated teachers leave or become overwhelmed. Motivation was seen as highly individual and variable, often influenced by workload, seasonal fluctuations, and the broader school environment. External incentives, such as qualification requirements, were also mentioned as influencing teacher engagement. Additionally, the role of collegial relationships and school culture was highlighted as critical in either supporting or constraining teachers' ability to drive sustainability education forward.

Teachers face significant time pressures as they juggle curriculum demands, extracurricular responsibilities, and administrative tasks—leaving limited space for innovation or the sustained implementation of new practices.

Participants repeatedly stressed that without dedicated time and resources for teacher training, it is difficult to build the necessary competence and confidence to deliver effective, integrated sustainability teaching.

Theme 5. Successful sustainability practices

While many schools had examples of successful sustainability practices, these were often isolated and not embedded in a broader system. The absence of institutional mechanisms for scaling and sustaining these innovations means they often depend on individual efforts and are vulnerable to discontinuation.

Theme 6 . Uneven institutional capacity

Differences in institutional capacity, both in terms of infrastructure and personnel, influence the quality and consistency of educational provision across contexts.

Theme 7. Desire for curriculum reform and systemic support

Participants highlighted a strong demand for curriculum reform to better support sustainability education. Concerns included outdated content, rigid frameworks, and a lack of coherence across and within subjects. Innovative teaching methods were found to often clash

with rigid curriculum structures and assessment regimes. There was a call for structures that support interdisciplinary and cross-curricular approaches. Practical, experiential learning was seen as essential to fostering sustainability understanding. Participants emphasized critical thinking and creativity as key to engaging students meaningfully and preparing them to navigate complex sustainability challenges.

Theme 8. Desire for sustained collaboration and networks

There was a clear interest in more structured and ongoing collaboration between educators. Participants advocated for platforms and networks that facilitate long-term sharing of ideas, resources, and experiences, enabling peer learning and mutual support.

Theme 9. Schools within a broader social context

There was shared recognition that sustainability and inclusion cannot rest solely on schools. Rather, they must be a societal undertaking, requiring the active, coordinated involvement of families, communities, and the broader social environment to create lasting cultural change.

4.2 Barriers

Most important barriers identified by participants were:

Barrier 1. Structural and systemic constraints

In many cases, there is insufficient support from educational authorities, including unclear policies, weak institutional frameworks, and poor alignment between national curriculum standards and sustainability objectives. Bureaucratic limitations—such as restrictions on off-site learning or community projects—further hinder innovation.

Barrier 2. Time pressure and scheduling constraints

Time constraints were repeatedly mentioned as a core barrier. The current structure of the school day leaves little room for creative, cross-curricular, or student-centred approaches. Teachers are already overextended, and after-school initiatives—while valuable—often add to the burden. Without scheduled time and institutional support during the school day, sustainability efforts are difficult to maintain.

Barrier 3. Insufficient institutional support

A widespread lack of financial and material resources severely limits the ability of schools to implement practical or project-based sustainability initiatives. Participants cited the absence of accessible, free tools and materials, limited funding for staff training, and an overall shortage of institutional investment. Without reliable infrastructure and resource allocation, promising ideas often fail to take root or expand beyond the pilot stage.

Sustainability content is not always accessible to students from diverse linguistic or cultural backgrounds. Complex language, culturally unfamiliar examples, or systemic biases in materials can exclude students, particularly those from minority or migrant backgrounds. This creates inequities in access to sustainability education and highlights the need for inclusive and representative content.

Barrier 4. Insecure and short-term funding

A lack of stable, long-term funding undermines the sustainability of initiatives. Many programs rely on temporary grants or one-off projects, which cannot be maintained or scaled without consistent financial support. This uncertainty discourages investment in long-term planning and makes successful initiatives vulnerable to discontinuation.

Barrier 5. Lack of teacher confidence

Many teachers expressed that they feel underprepared to address sustainability, particularly through inclusive, culturally responsive methods. As a result, some teachers may avoid or inconsistently engage with these topics.This lack of confidence often stems from limited content knowledge, lack of pedagogical tools, or minimal peer support. Insufficient training and lack of accessible professional development opportunities limit the scope and depth of sustainability education. This gap also hinders the teachers' ability to adapt lessons to meet the diverse needs of students.

Barrier 6. Attitudinal barriers

A prevailing mindset among some students, staff, parents, and segments of society positions sustainability as a secondary or even irrelevant concern. This was repeatedly identified as a major hindrance. A lack of belief in the impact of individual actions further undermines motivation, creating apathy toward environmentally and socially responsible behaviour. In some cases, parents or other stakeholders actively resist sustainability-related practices, either due to cultural misunderstandings or differing values, making it difficult to foster a consistent message between home and school. Participants noted that dominant societal narratives celebrating material wealth, status, and consumerism contradict the sustainability values promoted in schools. Children are immersed in environments—online, in media, and in their communities—that reward accumulation and excess. These messages can drown out classroom teachings about conservation, empathy, and restraint. Addressing this barrier requires wider societal change and collaboration beyond the school system, involving media, policy, and cultural institutions.

Barrier 7. Lack of parental reinforcement

Closely tied to attitudinal barriers is the absence of support at home. When the values of sustainability taught at school are not echoed by parents, students receive mixed messages. Some children are even discouraged from applying what they've learned—for instance, being

told not to pick up litter or to ignore concerns about overconsumption. This disconnect weakens the influence of school-based efforts and highlights the importance of broader engagement with families and communities.

Barrier 8. Lack of knowledge on implementations at the EU Level

During the focus groups, teachers identified a significant barrier to effective sustainability education: a lack of knowledge regarding how sustainability initiatives are implemented at the European Union (EU) level. They expressed a need for more concrete, real-world examples to help students understand how EU policies translate into action. Without this connection, sustainability education often feels abstract and disconnected from students' lives. Teachers emphasized that integrating knowledge of EU-level efforts—such as regulations, funding programs, and cross-border collaborations—would not only enhance their own understanding but also empower students to see the broader impact and relevance of sustainability issues across Europe.

4.3 Needs

The most important needs and challenges voiced across the focus group included:

Need for systemic and institutional support

Strong institutional backing was identified as essential for embedding sustainability into the school system. There was a strong call for the adoption of systems-thinking approaches within sustainability education. Teachers advocated for a more strategic and continuous process that integrates sustainability into the broader educational vision and school culture. A systems approach helps ensure coherence, relevance, and long-term impact, transforming isolated activities into a unified, purposeful framework. Teachers reported feeling isolated and overburdened without clear policies, leadership support, or infrastructure that enables long-term planning and implementation. Systemic support should include adequate funding, policy alignment, recognition of sustainability efforts, and logistical backing for interdisciplinary or extracurricular projects. Without such support, progress remains piecemeal and overly reliant on individual teachers' initiative. Participants emphasized the need for reliable financial support to make sustainability education a core, ongoing part of school life rather than a series of temporary projects.

Need for allocated time within the curriculum

A widespread concern was the lack of time within the current school schedule to explore sustainability topics in depth. Teachers are already navigating packed curricula, making it difficult to incorporate interdisciplinary or project-based sustainability learning. There is a need for more flexible and spacious scheduling that allows for in-depth exploration,

experimentation, and reflection. Time should also be allocated for teacher collaboration and co-planning, which are critical for cohesive implementation.

Need for Cohesion, Flexibility, and Relevance in the Curriculum

Participants called for greater cohesion and flexibility within the curriculum to support integrated, cross-disciplinary approaches to sustainability. Current structures often treat sustainability as an add-on rather than a foundational theme, leading to disjointed efforts and inconsistent prioritization across schools. There is also a need for curricular updates that reflect contemporary global challenges and local contexts, making the content more meaningful and urgent for students. Educators noted a significant challenge in maintaining student motivation around sustainability topics, often due to perceptions that the content is abstract or disconnected from students' daily experiences. There is a pressing need to make sustainability more relatable, relevant, and engaging by connecting it to students' lived realities. This includes incorporating real-world issues, using interactive and hands-on learning approaches, and encouraging student agency in tackling local or global sustainability challenges. Students should be given opportunities to apply sustainability concepts in real-life contexts—through projects, fieldwork, or community engagement. This approach not only deepens understanding but also fosters practical skills, critical thinking, and a sense of agency.

Need for practical tools and resources

Teachers emphasized the need for concrete, easily accessible teaching materials and tools that support the integration of sustainability into everyday lessons. Current resources are often seen as overly theoretical or difficult to adapt to various age groups and learning contexts. Practicality and usability were central concerns, with a call for free, localized, and ready-to-use materials that align with curricular goals and time constraints.

Need for assessment of non-academic outcomes

Teachers highlighted the importance of developing assessment frameworks that go beyond academic performance to capture values-based and behavioral outcomes, such as teamwork, empathy, and environmental stewardship. Current assessment systems often overlook these dimensions, limiting the recognition and development of key competencies related to sustainability and inclusion.

Need for inclusiveness and equity in education

A strong emphasis was placed on the need for inclusive, student-centered approaches that reflect the diverse cultural, linguistic, and socio-economic backgrounds of learners. Sustainability education should be accessible and meaningful to all students, not just those who already resonate with its principles. This includes adapting materials, diversifying examples, and actively addressing systemic biases that may exclude or marginalize certain groups.

Need for professional development in sustainability and inclusion

Teachers consistently expressed the need for robust, ongoing professional development to equip them with both the knowledge and pedagogical tools necessary to teach sustainability in inclusive and effective ways. Many feel underprepared to address complex, interdisciplinary topics like climate change, social justice, and systems thinking, especially in ways that resonate with diverse learners. Effective training should include both theoretical foundations and practical strategies, such as integrating sustainability across subjects, using culturally responsive methods, and facilitating peer learning. Supporting teacher development is essential for building confidence, consistency, and long-term commitment in sustainability education.

Need for parental engagement and support

A recurring theme was the need for stronger engagement with parents to reinforce sustainability learning beyond the classroom. When students receive conflicting messages—such as sustainability being valued at school but neglected at home—the effectiveness of school-based efforts is diluted. Participants highlighted the importance of informing and involving parents so they can model sustainable behaviors and contribute to a consistent, supportive learning environment. Schools need strategies to build meaningful partnerships with families, including culturally sensitive communication and community-based initiatives.

Need for scaling and sharing good practices

Many educators shared successful sustainability initiatives within their schools but noted that these remain isolated and rarely scaled or shared systematically. There is a clear need for mechanisms that identify, validate, and disseminate effective practices so that they can inform broader educational strategies. Integrating these initiatives into the system would prevent redundancy, promote consistency, and help build a shared culture of sustainability.

Need for societal support

Beyond schools and families, broader societal values must also reflect the principles of sustainability and inclusiveness for school-based efforts to have lasting impact. Teachers pointed out that when society at large—through media, public policy, community behavior, and social norms—models wastefulness or exclusion, it undermines what children learn in school. A supportive societal context can amplify the work done in education by normalizing and rewarding sustainable and inclusive behavior.

4.4 Opportunities for action

The 10 focus groups across the 8 countries identified a series of opportunities for action in sustainability education and inclusiveness. These can be categorized into five main areas: policy reform, pedagogical and professional development, curriculum and Instructional

innovation, community and stakeholder engagement, and systemic infrastructure and support:

Table 7. Summary of opportunities for action categories and their core focus

Category	Core Focus
Policy Reform	Structural alignment, funding, national and school-level strategy
Infrastructure & Systemic Support	Facilities, staffing, and support mechanisms enabling long-term change
Curriculum & Instructional Innovation	Practical, integrated, and student-centered learning models
Pedagogical Development	Empowering teachers through training, innovative methods and networks
Community Engagement	Partnerships and societal alignment for holistic learning

4.4.1 Policy reform

Key opportunities

- Develop national and school-level sustainability education policies.
- Embed sustainability in national standards and guidelines.
- Secure long-term, dedicated funding for sustainability initiatives.
- Reduce bureaucracy and rethink support systems for effective implementation.
- Promote interdisciplinary and cross-sector collaboration through policy support.

Effective sustainability education begins with robust, clear policy frameworks. These frameworks are expected by the participants to provide direction at both national and school levels. Policies are expected to support interdisciplinary integration, allocate resources equitably, and enable scalable practices. Long-term financial commitments and reduced bureaucratic barriers are seen to empower educators and schools to focus on pedagogical innovation rather than navigating administrative complexity. Furthermore, aligning

educational policy with real-world environmental and social needs is expected to ensure coherence between classroom learning and societal expectations.

The sustainability of any educational initiative depends heavily on financial stability. Participants stressed the importance of allocating long-term, secure funding for sustainability and inclusion efforts, rather than relying on one-time grants or short-term projects in best case and “figure it out” message in worst case. Consistent funding allows for strategic planning, continuity, and the ability to build on past successes rather than starting over with each new school year. It also reduces the burden on teachers, who often spend time seeking funds instead of focusing on implementation and pedagogy.

Reducing bureaucratic hurdles is a significant opportunity to make sustainability and inclusiveness initiatives more accessible and impactful. Teachers highlighted that excessive paperwork and rigid administrative processes drain time and energy that could otherwise be spent directly with students. Simplifying access to programs and funding, while maintaining transparency and accountability, would make it easier for teachers to focus on educational quality rather than administrative demands.

Some participants noted that the existing support systems are often misaligned with actual needs and realities. For example, while there is financial assistance to encourage school attendance, it doesn’t necessarily translate to genuine educational engagement or appreciation for the opportunity to learn. In some cases, support mechanisms are exploited—families receive payments for children who show little interest in learning or school attendance. This points to the need for a rethinking of the system, ensuring that support fosters real participation and growth, not just presence. Furthermore it has been argued that support for students who are already engaged and show potential sometimes is missing, even though they could benefit significantly from targeted encouragement and resources. A more balanced approach to resource allocation would ensure that not only those at risk of dropping out receive attention but also those who are ready to excel and contribute positively to their school communities.

4.4.2 Infrastructure and systemic support

Key opportunities

- Modernize and green school buildings, especially in under-resourced areas.
- Support hybrid and accessible teaching models, including in remote communities.
- Fund roles like sustainability coaches or interdisciplinary coordinators.
- Create shared platforms for resource distribution and practice upscaling.

A robust infrastructure—both physical and systemic—is essential to support sustainability education. Modern facilities ensure healthy environments conducive to learning, while hybrid models enhance access. Dedicated roles like sustainability coordinators can drive whole-school approaches. Resource-sharing platforms prevent duplication of effort and spread innovation. Systems must also recognize the diverse needs of students and families, ensuring support is not just remedial but also aspirational. When infrastructure aligns with pedagogy and policy, schools are better equipped to deliver consistent, high-quality sustainability education.

One key opportunity lies in the development of clear, structured processes that can translate good ideas into consistent, practical applications. Teachers and participants recognized that many valuable initiatives remain isolated or short-lived due to a lack of planning and follow-through. For real impact, there needs to be a deliberate process that begins with idea generation, includes careful piloting and evaluation, and ends with integration into regular school practice. This also involves mapping out what is needed—time, materials, people—and ensuring these resources are secured at each step of the process.

4.4.3 Curriculum and instructional innovation

Key Opportunities

- Integrate sustainability into subjects and develop standalone sustainability courses.
- Encourage project-based, experiential, and nature-immersive learning.
- Implement real-world data in lessons (e.g., school energy use).
- Use speculative design, scenario planning, role playing to build future literacy.
- Promote whole-school and cross-disciplinary approaches grounded in GreenComp.

An integrated curriculum framework would ensure sustainability and inclusiveness are not isolated topics but are embedded across different subjects and learning areas. This could involve interdisciplinary lesson plans, team-teaching strategies, and shared projects that highlight the interconnectedness of sustainability themes. Encouraging collaboration and communication among teachers can help align learning goals and create a cohesive approach. By doing so, schools can provide students with a consistent and meaningful understanding of sustainability and inclusiveness, making these values a natural and permanent part of their educational experience.

Curriculum innovation is key for making sustainability education tangible and meaningful. Interdisciplinary and experiential approaches—such as student-led projects, field-based learning, and integration of real-world data—make abstract sustainability concepts concrete. Frameworks like GreenComp offer guidance for embedding values, complexity thinking, and

future-oriented action across learning areas. Encouraging imagination, critical reflection, and student agency prepares learners not just to understand sustainability, but to lead transformative action. Embedding sustainability in daily school routines normalizes these themes as core, not supplementary. Rather than adding them as extra activities, the expectation is to weave these themes into core subjects and daily lessons, making them part of the regular learning experience rather than an additional burden.

Immersion in nature plays a vital role in sustainability education, as it fosters a deeper, more intuitive understanding of ecological systems and interdependence. When students spend time in natural environments, they are more likely to develop a sense of connection and responsibility for the natural world, moving beyond abstract concepts to direct experience. This first hand interaction can spark curiosity, build empathy for living systems, and motivate learners to take meaningful action for environmental stewardship. By engaging all the senses and nurturing an emotional bond with nature, such experiences lay the groundwork for a lifelong commitment to sustainability.

4.4.4 Pedagogical and professional development

Key opportunities

- Provide accessible, continuous professional development focused on sustainability and inclusion.
- Equip teachers with tools, interdisciplinary teaching strategies, and future-oriented pedagogies.
- Offer specialized training in experimental science, systems thinking, and culturally responsive practices.
- Establish peer mentoring, co-design formats, and collaborative teacher networks.

Access to ongoing professional training was identified as a critical opportunity to build teacher capacity. Although teachers are central to the success of sustainability education, yet many feel underprepared. Addressing this requires ongoing, hands-on, and context-sensitive professional learning opportunities. Training should go beyond content knowledge to include pedagogical techniques such as inquiry-based learning, interdisciplinary teaching, and inclusive methods that reflect cultural and linguistic diversity. Peer mentoring and teacher-led collaboration can foster innovation, while professional networks provide ongoing support and sharing of best practices. This professional empowerment builds educator confidence and efficacy, ultimately benefiting students.

4.4.5 Community and stakeholder engagement

Key opportunities

- Build strong family-school connections through co-learning, events, and projects.
- Forge partnerships with NGOs, businesses, municipalities, and cultural institutions.
- Develop community-wide platforms for knowledge exchange and results sharing.
- Ensure societal alignment to reinforce school-based messages at home and in the public sphere.

For sustainability education to have a lasting impact, it must extend beyond the classroom. Participants underscored that when these values are not echoed at home or in society at large, students receive conflicting messages that can diminish the impact of school-based learning. Collaboration with communities, local businesses, and media can amplify the message and embed it more deeply in the social fabric. Active involvement of parents, local organisations, and communities creates a consistent message and shared responsibility for shaping sustainable habits. These partnerships provide students with real-world insights, role models, and broader opportunities for participation. Shared responsibility would help create a consistent environment that normalizes sustainability and inclusiveness across every part of a child's life.

These findings contextualize and support the general recommendations for policymakers established in the earlier curriculum review by Hooda and Tuba (2025). The project's next steps include collecting and examining best practice case studies from partner countries and creating an inclusive pedagogical model for teaching, learning, and assessing sustainability competencies, aimed at guiding teachers and educators.

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