



UpSpace: Upcycling and Regeneration of Urban Space for Green Skills

Ref. number 2024-1-IT02-KA220-SCH-000249480

Work package n°4

Synopsis Report of consultations with key decision-makers and policy-makers

**How to integrate environmental sustainability on schools'
curricula: ideas, strategies, solutions**



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1. Introduction

One of the main objectives of the UpSpace project is to strengthen policy cooperation and promote exchange among decision-makers, stakeholders and experts in sustainable development, with a focus on the role of education and training in supporting the transition towards a more sustainable and resource-efficient society across the partner countries.

Structured environmental education has the potential to generate both individual and societal benefits. For students, it can foster:

- ecological awareness;
- practical sustainability skills;
- active citizenship;
- responsible environmental behaviour.

Young people who grow up with environmental awareness are more likely to support policies promoting responsible resource management, sustainable urban development, and reduced land consumption. At the community level, environmental education can enhance public awareness and engagement with sustainability issues.

Within this framework, the present report presents the outcomes of consultations carried out in Italy, Germany, Greece, and Serbia on the integration of environmental sustainability into school curricula. The consultation process combined individual interviews and moderated roundtables with policymakers and educational stakeholders, with the aim of gathering practical and strategic insights, as well as identifying key opportunities, challenges and enabling conditions necessary to ensure long-term impact.

According to the project KPIs, a total of **60 key decision-makers and policymakers** were to be involved at national level across the partner countries, corresponding to 15 participants per country. To achieve this target, the following activities were planned:

- Interviews with 5 key decision-makers and/or policymakers per country;
- Two roundtables aimed at engaging 10 key decision-makers and/or policymakers at national level (40 participants in total across all countries).

In each partner country, both organisations and schools contributed to the stakeholder consultation process, with clearly defined responsibilities: partner organisations were responsible for organising the roundtables, while schools conducted the individual

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interviews. Where the expected number of participants for either activity could not be reached, the respective organisations or schools compensated by carrying out additional interviews or involving a higher number of participants in the roundtables, thus ensuring that the overall targets were met.

Through this coordinated approach, a total of **78 stakeholders** were reached, specifically:

Italy: 16 stakeholders involved;
Germany: 30 stakeholders involved;
Greece: 16 stakeholders involved;
Serbia: 16 stakeholders involved.

The discussions were designed to bring together diverse voices and experiences: the involvement of specialists from primary and secondary education bodies, higher education representatives, environmental authorities, as well as policy makers and decision makers, educators and sustainability experts provided a valuable perspective on the subject and revealed a high level of motivation among participant actors to strengthen environmental education in schools.

Moreover, the consultations with stakeholders offered the opportunity to disseminate the project and its objectives at a policy level.

The consultation formats ranged from brief interviews to in-depth roundtable discussions, providing opportunities both to reflect on overarching policy frameworks and to share insights on everyday school realities. Across all formats, the focus was on generating actionable recommendations that bridge high-level objectives with practical classroom implementation.

There was broad consensus that sustainability education should begin early and be consistently integrated across subjects. At the same time, participants highlighted current barriers, including limited time, financial resources, the absence of formal support structures, the urgency to renovate teacher training and school curricula and the gap between formal and non-formal education.

Addressing these challenges presents an opportunity to strengthen institutional frameworks and the cooperation between the formal and non-formal sectors, ensuring that responsibility for sustainability education is shared more widely, rather than relying solely on motivated individuals.

The findings presented in this report highlight shared priorities and reveal opportunities for sustainable, systemic solutions with long-term impact.

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At the end of the report, a set of **targeted recommendations** has been developed to guide policy and decision-making, in order to address the key challenges identified across all partner countries and support the effective integration of sustainability into school curricula, fostering inclusive educational practices.

2. Participants' profile – social and demographic background

The consultation process brought together a broad and diverse group of stakeholders with professional experience in education, environmental management, civil society, and policymaking. In total, **78 participants** were involved: 55 stakeholders participated in roundtable events organised across the partner countries, while a further 23 contributed through individual interviews.

Each partner identified the participants for the round tables and interviews based on the contacts included in the WP4-A.4.2 *National databases of key policy-makers, stakeholders and experts in the field of environmental sustainability*, developed during the initial phase of the project.

More specifically, each national context involved different categories of professionals and stakeholders, as outlined below.

In Italy, the consultations event brought together **16 stakeholders** representing a diverse range of organizations and professional backgrounds, each with direct experience in the fields of sustainability and education, providing a comprehensive view of how environmental education and sustainability initiatives can be promoted at multiple levels, from strategic policy planning to hands-on activities in schools and local communities, offering valuable guidance for designing effective and inclusive sustainability programs.

The two roundtables brought together a diverse group of participants with extensive experience in environmental protection, sustainability education and community engagement. The attendees included representatives from regional environmental agencies responsible for managing protected areas and promoting sustainability initiatives in schools; non-profit organizations working on environmental awareness, plastic pollution, urban reforestation and green spaces; social cooperatives specialized in recycling, circular economy and climate change communication; social enterprises implementing innovative projects such as agri-voltaics and hands-on educational workshops in schools; and

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educational institutions, including school leaders and teachers, directly involved in integrating sustainability into curricula and extracurricular activities.

The group of interview participants represented profiles at both management and policy levels, with experience in environmental conservation, management, and education, providing practical insights on how sustainability topics can be incorporated into formal and informal learning environments. Participants included the director of a Sicilian nature reserve managed by Legambiente, responsible for environmental outreach and education planning; a representative of the Environment Department of the Sicilian Regional Government, overseeing natural protected areas, regional sustainable development strategies, and initiatives previously connected to the national [INFEA](#) programme; a professional with international experience in rural development and environmental restoration, now working in Sicily on projects such as reforestation and wildfire recovery with strong community involvement; and a school leader managing institutions in socially and environmentally challenged neighborhoods, where promoting environmental awareness among students is crucial both for education and for improving community quality of life. This diversity of participants ensured a rich exchange of perspectives, combining policy-level decision-making, technical expertise and practical implementation experience.

In Germany the consultations deliberately included both strategic decision-makers and practitioners in order to capture a wide spectrum of perspectives on integrating sustainability into school curricula, involving **30 participants**.

The first group of participants represented public administrations and environmental authorities at the district level. They brought expertise in water management, nature conservation, and environmental policy, with professional experience ranging from a few years in administrative practice to nearly three decades in landscape conservation and environmental governance. They provided insights into how environmental challenges—such as water management, land use, and biodiversity protection—intersect with education, and how policy frameworks could better support schools in addressing these issues.

The second major group comprised teachers and school leaders from primary and secondary education. This was the largest and most diverse group, including educators from primary schools, comprehensive schools, Montessori schools, and grammar schools. Many served as Education for Sustainable Development (ESD) representatives within their institutions. Their professional experience ranged from early-career teachers with only one or two years of practice to educators with 15–25 years of classroom experience. School leadership was also represented, with head teachers actively working to embed sustainability into school culture. Collectively, this group offered invaluable first-hand perspectives on the challenges and opportunities of teaching sustainability, highlighting

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issues such as time constraints, curriculum integration, and the importance of hands-on learning.

A third group consisted of representatives from civil society organizations and community associations, particularly in the areas of food, nutrition, and agriculture. Several participants were long-standing members or board representatives of local and regional food councils, consumer advice centers, or thematic associations focused on agriculture, diet, and energy. Their experience ranged from a few years of voluntary engagement to over fifty years of expertise in agriculture and community work. This group emphasized the importance of connecting schools with everyday sustainability practices, including healthy diets, food production, and climate-conscious consumption.

Overall, the participants represented a rich diversity of professional backgrounds and levels of experience with a gender distribution predominantly female among teachers, and more balanced among representatives from administration and associations.

In Greece, **10 participants** representing diverse backgrounds and levels of expertise took part in two separate **roundtable sessions**: their backgrounds are primarily rooted in education—including school administration, school leadership, teaching, education for sustainability and non-formal outdoor education—but also extend to research, regional development, public administration, environmental education and the museum sector. The roles covered range from consultants, school directors, university professors and teachers to department heads and business development managers, reflecting a multidisciplinary group able to contribute complementary expertise across educational, environmental, scientific and socio-territorial domains.

With regard to **the interviews**, **six experts** were selected to ensure broad representation from primary and secondary education, higher education, and the Municipality of Thessaloniki. Regarding primary and secondary education in Greece, participants included professionals with extensive experience in environmental education and sustainability, such as a PhD chemist and Supervisor of Education Quality in West Macedonia, a Deputy Mayor of Education with a PhD in Medicine from the Municipality of Thessaloniki, a language teacher representing the 5th Municipal Community of Thessaloniki, a representative of the Europe Direct Information Centre with training in Education for Sustainability from the University of the Aegean, a private school teacher recognized in the Bravo Schools competition for SDG-related initiatives, and a retired educator with over 30 years of experience, formerly part of the Directorate of Secondary Education of Western Thessaloniki.

In Serbia, the consultations brought together a diverse group of participants primarily based in Belgrade, with additional representation from surrounding municipalities and the Vojvodina region, ensuring that discussions reflected both metropolitan and

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smaller-community contexts. The consultation cohort consisted of **16 experienced professionals**, including key decision-makers and policymakers in the fields of education and sustainable development. Together with practitioners, civil society representatives, and young people, they represented a broad spectrum of actors responsible for promoting green initiatives and contributing to regulatory and structural developments within the national education system. Their collective expertise provided a solid foundation for identifying the pedagogical and systemic adjustments required to support the objectives of the UpSpace initiative.

Specifically, participants included:

- Teachers and school staff: biology and vocational subject teachers, as well as school representatives involved in environmental initiatives, took part in the consultations. Their experience ranged from early-career educators to senior professionals with extensive service in the education system. Several participants also held coordination or leadership roles within local teacher networks and subject councils.
- Civil society organisations: representatives from organisations such as Mladi istraživači Srbije, Eko-centar, and bird conservation associations contributed substantial expertise in environmental education, youth engagement, activism, and community mobilisation, having implemented national and regional projects, workshops, and awareness-raising campaigns.
- Youth representatives: students and young activists offered insights into the motivations and expectations of Serbian youth regarding sustainability, emphasising the need for more meaningful participation and practical learning opportunities.
- Higher education representatives: University students in environmental studies and agriculture brought academic perspectives on climate change and sustainable development practices, further enriching the discussion.

Participants represented complementary professional profiles, including project designers, teacher trainers and supporters, community engagement practitioners, laboratory facilitators, policymakers, and environmental experts with data expertise at local, regional, and European levels.

Despite their diverse roles—ranging from administrators focused on structural frameworks, to teachers highlighting classroom realities, civil society actors emphasising community synergies, and environmental experts contributing technical knowledge—they shared a common commitment to advancing sustainability education. This diversity fostered a balanced dialogue, addressing both strategic priorities and practical solutions.

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3. Sustainability in school education

Across all project countries, consultation participants stressed that environmental sustainability is more urgent and relevant than ever, and that education plays a decisive role in shaping active and responsible citizens capable of contributing to resilient and sustainable societies. Stakeholders consistently identified schools as key environments for fostering environmental awareness, developing practical competences, and strengthening a sense of collective responsibility. Environmental education was widely regarded not as an additional subject, but as a long-term investment in the future, reflecting the role of schools as microcosms of society. There was broad agreement that sustainability education should move beyond isolated initiatives and instead be embedded within a structured, whole-school approach. This would entail integrating sustainability principles into school governance, teacher training, curricula and partnerships with local communities.

Historically, environmental education in Italy was defined as a transversal theme in educational policy discussions beginning in the 1970s. In fact, in the Italian school system, sustainability education is currently included within the 33 hours allocated to "civic education" - according to "[Linee guida per l'insegnamento dell'educazione civica](#)" of the Italian Ministry of Education and Merit - which presents several challenges. The limited number of hours available is insufficient to address such a broad and complex topic, and the absence of a dedicated teacher often leads to responsibility being shared among teachers of different subjects. As a result, sustainability education is frequently delivered through fragmented approaches, without a clear framework or continuity.

At the same time, cooperation with external organisations offers valuable opportunities to mitigate some of these limitations. In particular, the PCTO¹ system allows schools to allocate specific hours for students to gain practical experience with external partners. However, these collaborations are often short-term and project-based, which reinforces the perception of environmental education as occasional rather than continuous. Consequently, environmental education remains largely dependent on external organisations, resulting in a fragmented and uneven provision.

Another key theme highlighted during the consultation in Italy is the lack of a clear pedagogical methodology for environmental education. Participants emphasize that

¹ Within the Italian education system, the PCTO (Percorsi per le Competenze Trasversali e per l'Orientamento) is a national programme designed to support students in developing transversal skills and career orientation through practical learning experiences. It allows secondary school students to spend a defined number of school hours in structured activities with external organisations, such as NGOs, social enterprises, public bodies, or private companies, bridging formal education with real-world contexts.

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effective teaching requires a well-defined methodological approach, which has often been missing in Italian schools. Without structured educational programmes, clear learning objectives and methodological frameworks, environmental education risks remaining fragmented and inconsistent, encompassing unrelated activities. The “*Earth Education*” approach (promoted by the [Institute for Earth Education](#)) was mentioned as an effective model, emphasizing experiential learning and the development of emotional and cognitive connections with nature. This methodology has proven particularly successful in teacher training and environmental educator programmes.

In Germany, consultation participants emphasized that schools are uniquely positioned to translate global sustainability challenges into concrete, locally relevant learning experiences that resonate with students' everyday lives. Feedback gathered from interviews and roundtable discussions revealed broad consensus on the need for interdisciplinary and practice-oriented approaches. Teachers and school leaders underscored the importance of embedding sustainability across everyday teaching practices rather than addressing it as a standalone subject. Representatives of public administration highlighted that education should reflect the interconnection between ecological, social, and economic dimensions of sustainability. Civil society actors, in turn, advocated for stronger collaboration between schools and local communities to ensure that sustainability is not only taught conceptually but also experienced and implemented in practice.

In Greece, roundtable discussions highlighted educators' strong commitment to Education for Sustainability (ESD) and their active integration of sustainable practices into daily teaching. Interviewees emphasized that a holistic ESD approach equips students with the skills to identify environmental challenges, take informed action, and ultimately contribute to their prevention. By connecting classroom learning with real-life sustainability practices, ESD fosters environmental awareness from an early age and nurtures active, responsible citizenship. A pilot programme launched this year in Greece further supports this approach by providing equipment to primary schools wishing to establish vegetable gardens, thereby promoting experiential learning and strengthening the link between education and sustainable practices. However, additional institutional and technical support is required to sustain and consolidate these efforts. The extended three-month summer break often disrupts continuity, leading to the temporary suspension of environmental education activities. In this context, the Ministry should act as the central coordinating authority to ensure a coherent national framework and improved organizational support across schools.

In Serbia, roundtable consultations confirmed that, although schools have significant potential to foster environmental awareness, they often lack adequate structural frameworks and institutional support. Sustainability topics are frequently addressed

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informally or through extracurricular activities, and many initiatives rely heavily on the personal commitment of individual teachers, resulting in inconsistency and limited continuity. Students demonstrate strong interest in environmental issues such as biodiversity loss, pollution, and climate change; however, curricular constraints often limit meaningful engagement with these topics. Teachers highlighted the importance of using practical, locally relevant examples to make sustainability education more tangible. At the same time, young people perceive issues such as lithium mining and the development of mini hydropower plants as highly relevant to their future, although these topics are sometimes avoided in school settings due to their political sensitivity.

3.1 Strategies to introduce sustainability into schools' curricula

Consultation participants stressed that sustainability must become a structural priority within schools rather than an occasional or project-based initiative. Any effective approach should begin by strengthening teachers' capacities and reinforcing school organisation. The integration of sustainability requires clear institutional support, dedicated time within the school schedule, and continuous professional development before tangible and measurable changes in classroom practice can be expected. As schools are considered spaces where attitudes, values and behaviours are shaped, integrating sustainability into curricula goes beyond conveying ecological information; it involves fostering shared values, a sense of responsibility and students' agency in contributing to sustainable development.

In fact, a key point emerging across all consultations was the importance of introducing sustainability education from the earliest stages of schooling, including preschool. At younger ages, environmental awareness can be introduced through practical and experiential activities rather than theoretical lessons. Children can develop an understanding of sustainability through play, creativity and hands-on experiences. Early exposure to sustainability concepts enables children to develop foundational skills, attitudes, and behaviours that support lifelong learning and encourage their growth into responsible and environmentally conscious citizens.

Participants also emphasised that students' learning pathways should integrate knowledge acquisition, practical skills, critical thinking, and civic engagement. Such a holistic approach ensures that young people not only understand environmental challenges but are also equipped and motivated to play an active role in addressing them.

In Italy, participants to the consultations showed two main perspectives on the integration of environmental sustainability into school curricula. On the one hand, sustainability should be integrated across subjects such as science, geography, history, and civic education in order to promote critical thinking, rather than treated as a standalone course. Ecology itself is

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inherently interdisciplinary because it studies the relationships among living organisms, environmental factors, and human activities. This approach helps students understand the complexity of environmental systems and the interconnections between ecological, social, economic dimensions, as well as the philosophical aspects of sustainability.

On the other hand, some representatives strongly criticized the long-standing Italian approach of treating environmental education as a **cross-curricular or interdisciplinary topic** rather than as a formal subject. This has resulted in environmental education remaining **marginal, sporadic and poorly defined**, often delivered through short-term projects or extracurricular initiatives rather than structured learning pathways. Participants therefore argue that environmental education should first be established as a distinct curricular subject within the necessary institutional framework. Only after this foundation could it be developed in a more **interdisciplinary** way.

Competence-based, experiential learning—including outdoor investigations, laboratory work, living classrooms (e.g., gardens and beekeeping), and co-design projects—was recommended to engage students actively as it helps them develop an emotional and sensory understanding of environmental responsibility.

The following key competences were identified as especially relevant for students:

- Systems thinking, to understand the interconnections between consumption, energy use, waste management, and biodiversity;
- Practical, hands-on skills, including composting, gardening, basic environmental monitoring, and waste sorting;
- Critical thinking and consumer literacy, to analyse information, recognise marketing strategies, and identify instances of greenwashing;
- Civic competences, supporting participation, co-design processes, and local advocacy;
- Reflective practices, such as assessing personal environmental footprints and planning behaviour change.

Environmental education should extend beyond the classroom through formalized extracurricular activities, such as green committees. Participants also highlighted Citizen Science activities, which engage students in scientific observation and data collection, as an effective way to foster curiosity and deepen understanding of environmental processes. To engage students and introduce sustainability education in a structured way, a notable practice highlighted by consultation participants in Italy is the [Green School Italy network](#), established by Istituto Oikos. The network provides schools with teaching methodologies, materials, and guidance to integrate sustainability into educational activities, fostering

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students' adoption of sustainable behaviors through hands-on experiences and active participation.

Finally, participants agreed that teacher readiness is the key precondition for integrating sustainability into the curriculum. Teachers require systematic, accredited and ongoing training to strengthen both subject knowledge and facilitation skills, fostering participatory learning and ensuring effective delivery of sustainability content. Training should support informed, non-alarmist communication, promote circular economy principles, counter misinformation, and encourage a constructive, cross-curricular approach that fosters long-term engagement. Participants also emphasized that pedagogical and psychological skills are as important as scientific expertise, highlighting the value of teaching abilities, communication, and pedagogical sensitivity in effectively delivering environmental education.

In Germany, schools are consistently recognized as central actors in addressing sustainability challenges. By reaching children and young people across all social groups, schools have the potential to foster environmental awareness and develop key competences on a broad scale. Participants noted that students often show greater engagement in practical, life-related activities than in abstract discussions. Hands-on projects—such as cooking with regional products, analyzing personal consumption patterns, or repairing bicycles—allow schools to make sustainability tangible, while also countering the perception that it is a “luxury topic” disconnected from everyday concerns. In fact, cross-curricular integration was emphasized as essential, ensuring that sustainability is embedded across multiple subjects rather than confined to a single discipline. Mathematics, for example, can contribute through calculations of energy use or carbon footprints; ethics and values education can address fairness and global justice; and language classes can incorporate texts and discussions on environmental themes.

At the same time, participants highlighted that, despite the benefits of interdisciplinarity, dedicated subjects, electives, or modules may be necessary to increase visibility and prioritization. Such structures allow schools to allocate time and resources more effectively, ensuring sustainability receives focused attention. Project-based learning was also widely recognized as one of the most effective approaches. Examples include school gardens, self-directed “Friday” projects, and collaborations with local businesses on recycling or energy-saving initiatives, which directly engage students in practical sustainability efforts.

Finally, competence development was emphasized as a core goal. Beyond acquiring knowledge, sustainability education should equip students with critical thinking skills, the ability to assess information, and the capacity to take responsibility for their actions.

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Teachers underscored that these approaches prepare students to become active citizens capable of shaping social and political processes.

In Greece, experiential and cross-curricular approaches are considered central to the effective integration of sustainability into education. Interdisciplinary projects that connect environmental topics with subjects such as science (physics, geography, chemistry, informatics), home economics and civic education are central in order to encourage students to understand sustainability as a cross-cutting theme rather than a standalone topic, fostering critical thinking and systemic understanding. These projects include extracurricular programmes that involve collaboration with individuals, organisations, scientific institutions, collectives and universities. Such initiatives enable students to move beyond the physical boundaries of the school and engage with structured and systematic sustainability efforts taking place in the wider community.

Structured environmental education also plays a key role, supported by environmental education centres, management bodies of protected areas, and publicly funded programmes that allow students to visit natural sites and experience first-hand the realities of areas with high environmental value. Participants recommended that the Ministry of Education create an interdisciplinary Education for Sustainability course, integrating theoretical and practical components, fostering active participation, and including assessment to strengthen its academic value and ensure meaningful student engagement. In addition, summer schools represent an important practice, temporarily relocating the classroom to natural settings and immersing students in the specific ecological and cultural characteristics of local environments.

In the Serbian context, discussions explored three main approaches to curriculum integration: assessing the viability of embedding sustainability themes across existing subjects to ensure a horizontal curriculum; evaluating the need for specialised, technical standalone courses at different educational levels; and examining the role of extracurricular, hands-on learning in reinforcing theoretical knowledge. In fact, participants emphasised the importance of expanding practical, hands-on activities. Suggested initiatives included the development of school gardens and micro-planting projects, waste sorting and recycling workshops, biodiversity monitoring activities (such as installing bird feeders, creating insect hotels, and planting trees), as well as cross-school ecological projects and visits to local green areas. Experiential learning was consistently identified as one of the most effective approaches to fostering student motivation and engagement. Another important aspect highlighted was the potential role of student parliaments. When adequately empowered and supported, student councils can act as key drivers in promoting a sustainable school culture and encouraging active participation. Moreover, stakeholders stressed the importance of ensuring local relevance by anchoring sustainability education in

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local issues and real-life examples. This approach helps make learning more meaningful and immediately applicable to students' everyday lives.

3.2 Priority themes and topics for Sustainability Education Programs

In Italy, stakeholders emphasized that a coherent sustainability programme should address both ecological processes and the socio-economic drivers behind them, helping students link local realities to global systems. Key topics **include** food sovereignty, conscious consumption, biodiversity, waste management, energy transition, resource use and carbon and water footprints, aiming to empower learners to make informed and sustainable choices.

Particularly, participants identified four key ecological concepts that should form the basis of environmental education since primary school level:

- Energy flow (from the sun to Earth systems);
- Matter cycles, particularly the cycles of air, water and soil;
- Interconnections between natural systems;
- Change and transformation within ecosystems.

In Germany, the following core themes were highlighted as particularly important for sustainability education programmes:

- Everyday sustainability in consumption, nutrition, and waste reduction
- Water management and resource cycles
- Mobility and transport, including the school commute
- Globalization, supply chains, and circular economy
- Biodiversity, forests, and ecological resilience
- Political and social dimensions of climate change
- Media literacy and information evaluation

In Greece, the main topics to be included in any program regarding sustainability, should be:

- Ecosystems' restoration
- Natural cycles (carbon cycle, water cycle etc)
- Energy

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- Environmental ethics
- Physical activities
- Home and ecological economics.

In the Serbian context, participants identified key ESD priorities focusing on core topics (climate change, resource management, circular economy), teacher training (pedagogical and regulatory knowledge), and student competencies (critical consumption, active engagement, and waste reduction skills), proposing a range of topics to be considered for ESD, specifically:

- Biology (ecosystems, biodiversity, pollution)
- Geography (climate change, natural resources)
- Chemistry (toxic substances, environmental impact of materials)
- Sociology and civic education (participation, environmental justice)
- Physical education (outdoor learning, nature exploration)

3.3 Urban regeneration and recycling in schools

In Italy participants noted that recycling practices in many schools and specifically across Palermo (Italy) are often absent or inconsistent, underlining the need for visible, concrete actions to make environmental education more tangible. A key challenge is improving communication between local authorities and citizens, ensuring that recycling guidelines are clearly explained, consistently implemented and accompanied by initiatives that encourage active participation and a stronger sense of shared responsibility within the community. Proposed initiatives included local environmental monitoring activities, the transformation of school spaces into green areas (e.g., vegetable gardens or small beekeeping areas), community regeneration projects such as tree planting, and experiential tools like CO₂-based games and clothes-swap initiatives to promote responsible consumption. Integrating landscape and territorial studies into curricula was also highlighted as a way to strengthen students' connection to their local environment and foster active citizenship. Overall, participants stressed that lasting impact requires integrated approaches combining monitoring, practical interventions, student involvement, and strong school-community partnerships.

In Germany practical activities were seen as indispensable. Repair workshops, recycling initiatives, and energy-saving competitions are not only educational but also contribute

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directly to improving the school environment. Teachers noted that such activities help students experience their own ability to effect change.

Urban regeneration was also mentioned as a field where schools can have an impact, for example by participating in neighborhood greening projects or cooperating with municipal services. The idea is that schools act as role models for sustainable practices, visible to both students and the wider community.

As far as concern the Greek context, recycling and reuse practices vary widely across Greek schools, partly due to municipal ownership of school buildings. Some schools, like those in the Municipality of Thessaloniki, have organized initiatives such as recycling competitions, school gardens, and projects promoting food waste reduction and clothing reuse. These activities not only raise students' environmental awareness but also support the wider community. Practical examples include the 5th Gymnasium of Thessaloniki (Greece) minimizing paper use, creating decorations from waste materials, and using public transport for educational visits.

However, recycling remains an area with limited and inconsistent data, and the regulatory framework frequently changes without a coherent long-term strategy. As a result, recycling is often perceived as less engaging or effective within Education for Sustainability. Participants highlighted alternatives such as upcycling, zero-waste practices, and consumption reduction as more innovative approaches, directly fostering sustainability values, critical thinking, student agency, and behavioral change. Participants stressed that while these efforts are valuable, environmental education requires continuous, year-round support rather than isolated events tied to awareness days. At the national level, sustainability is promoted through integration into official curricula via Skills Labs and Active Citizenship Projects, implementation of the 2030 greener policies directive, construction of bioclimatic schools (as in Central Macedonia), energy-saving measures (e.g. heating improvements, paper-waste reduction, etc.), recognition of environmental initiatives, and free teacher training programs.

At the local level, policies can have a tangible impact through school gardens, recycling programs, energy-efficient buildings, and participatory citizen initiatives. Effective collaboration between the Ministry, municipalities, schools, and NGOs is crucial, as sustainability education extends beyond knowledge to become a way of life, linking schools with the wider community.

In the Serbian context, discussions highlighted the importance of strengthening competencies related to circular economy principles, encouraging students to view waste as a resource through upcycling initiatives and practical modules aimed at improving school

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infrastructure. School grounds were also recognised as potential laboratories for biodiversity, urban cooling, and broader urban regeneration education.

Although many schools already implement recycling and clean-up activities, these initiatives are often sporadic and lack continuity, while urban regeneration projects frequently face administrative, financial, or technical constraints that limit their long-term impact. Participants therefore emphasised the value of stronger collaboration with local civil society organisations, whose technical support and community engagement can enhance the sustainability and effectiveness of such initiatives, fostering a lasting culture of sustainability within and beyond the school environment.

4. Policy actions and strategies to promote sustainability at school level

Consultations' stakeholders agreed that systematic sustainability education requires coherent policy frameworks and structural measures. Participants agreed that meaningful and lasting impact must be driven at policy level, as individual commitment alone cannot ensure scale or continuity.

In Italy participants suggested several strategies:

- National guidelines and local adaptation: national guidelines should establish common expectations for sustainability education, aligned with the United Nations 2030 Agenda, particularly Goal 4.7, which promotes education for sustainable development and environmental awareness, while allowing regional authorities the flexibility to implement pilot programs and incentives tailored to local needs. For instance, Sicily, with its special statute, can test regional policies adapted to its specific context.
- Structured teacher training: teacher training should be mandatory, adequately funded, and well structured. Participants highlighted the importance of continuous professional development that equips teachers with the skills, methodologies and tools (e.g. digital platform providing educational resources) needed to integrate sustainability across different subjects, with a focus on **interdisciplinary teaching**. In addition, it was stressed that teacher training should be delivered in collaboration with local organisations, whose in-depth knowledge of the territorial context allows training activities to better respond to local needs and challenges.

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- Dedicated teaching qualification for sustainability educators: this measure would ensure that the instructional hours allocated to sustainability-related content—currently embedded within the civic education framework of the Italian education system—are delivered effectively by teachers with subject-specific expertise. Instead of being distributed across teachers of different disciplines, where coordination in curricular planning and thematic alignment may vary, this approach would contribute to the development of a structured, coherent, and systematically implemented framework for sustainability education.
- Accreditation through international networks: for example, the Eco-Schools network, a global program that certifies schools for sustainability. Certification assesses not only energy and resource use but also students' engagement in making the school sustainable across all areas, including waste management and school gardens. Recognition as an Eco-School is prestigious, motivating schools to adopt sustainable practices, and international accreditation can also provide access to additional funding, making it an effective incentive-based approach.
- Support for European and regional projects: European and regional initiatives have already shown success in embedding sustainability practices in schools (e.g., establishing green committees, co-designing projects with students). These programs should be expanded and supported through policy to ensure sustainability education becomes a lasting feature of school governance.

In Germany key proposals included:

- Curriculum revision: national or regional curricula should include sustainability competences as explicit learning objectives.
- Teacher training: obligatory training modules should prepare teachers to integrate sustainability into their subjects.
- Financial support: schools require budgets for infrastructure such as waste separation systems, energy-efficient lighting, or school gardens. Without reliable funding, many initiatives remain temporary.
- Time structures: sustainability education needs dedicated time in the school timetable. Several participants suggested weekly project days where students can explore topics in depth.
- Political support: teachers stressed that sustainability must be visibly supported by ministries and school authorities. Some participants also called for international exchange of best practices, noting that sustainability challenges are global and that schools can learn from innovative approaches in other countries.

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In the Greek context sustainability education can be strengthened at national level through a set of coordinated actions, including:

- continuous professional development for in-service teachers;
- the integration of sustainability education within the curricula of University Departments of Education;
- support for the existing national association of educators active in sustainability education;
- provision of adequately trained teaching staff;
- upgrading of public school infrastructure;
- development of national guidelines and environmental regulations;
- the creation of a centralized database offering up-to-date, ready-to-use educational resources and practices.

However, a number of initiatives already contribute to strengthening students' connection with the global environmental community and to fostering a European perspective in education. These include the nationwide annual sustainability competition "Bravo Schools"; the Eco-Schools green network supported by UNESCO; the European Climate Pact; programmes developed by the University of the Aegean; "Green Weeks" residential programmes organised in Environmental Education Centres; reforestation and beach clean-up activities carried out in cooperation with municipalities; and the establishment of school vegetable and flower gardens.

The consultations with Greek stakeholders also highlighted several national and international practices that may serve as models for sustainability education, such as the Whole School Approach implemented in Lower Saxony (Germany), the well-established outdoor education model in Scandinavian countries, and the eco-social education approach, which promotes a holistic understanding of human impact on planetary boundaries and societal well-being. This framework transcends traditional disciplinary boundaries by combining environmental science, social justice, economic perspectives, and cultural dimensions.

In Serbia participants identified several priority areas for action:

- Curricular Reform: sustainability should be embedded in national curricula as a mandatory, structured component rather than an optional or marginal subject, systematically incorporating sustainability and Circular Economy themes.
- Teacher training, professional support and national guidelines: teachers require targeted professional development in environmental and sustainability-related topics, access to clear pedagogical guidelines and high-quality teaching materials, and explicit clarification of expectations regarding sustainability learning outcomes.

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Several participants noted that educators tend to avoid topics for which they feel insufficiently prepared, so targeted training can help build confidence. Developing standardized national guidelines for sustainability education is a crucial first step, as experts agree it provides a foundation for consistent implementation across schools, ensuring a coherent approach to sustainability learning.

- Partnerships with Green Companies: Collaborating with local businesses can offer students practical experience and real-world insights into sustainable practices. Participants agreed that such partnerships are most effective once national guidelines and teacher training are in place, ensuring a solid framework while significantly enriching students' learning experiences.
- Financial and administrative support: schools need adequate resources to develop gardens and outdoor learning spaces, purchase tools and recycling equipment, collaborate with civil society organisations, and organise excursions and local fieldwork. In many cases, even basic funding for extracurricular ecological activities is lacking.
- Clear institutional endorsement: participants emphasized that sustainability education must be formally supported by ministries, school authorities, and inspection bodies. Without such institutional backing, teachers may feel discouraged—or reluctant—to address complex or potentially sensitive environmental issues.

Furthermore, the Serbian consultations explored national and international frameworks that have successfully institutionalized “Green School” standards for the UpSpace project, citing the Eco-Schools initiative and UNESCO's Education for Sustainable Development (ESD) framework.

5. Obstacles to implementing effective sustainable education

The consultation events contributed to identifying key challenges related to the integration of sustainability education into school curricula.

In the Italian context—particularly in Sicily, where the Italian partner organisation and the participating schools operate—participants in roundtables and interviews highlighted a number of specific obstacles:

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- Cultural resistance: environmental awareness differs across regions and communities, and in some areas the importance of sustainability is not fully recognized, making it challenging to promote environmental education effectively.
- Teacher training: many teachers have limited preparation in environmental topics, and professional development requirements are unevenly monitored and implemented. This lack of preparedness feeds a cycle in which sustainability is perceived as distant from everyday teaching. It was noted explicitly that civic education is a natural place for reflections on sustainability, but current practice often fails because teachers assigned to civic education lack specific training or use the hour for their main subject when they fall behind. Moreover, innovative activities depend on the motivation of individual staff rather than on school-level capacity.
- Lack of infrastructure: the absence of separate waste collection systems and limited access to natural spaces in some schools hinders experiential learning and the promotion of sustainable practices. Students often grow up in environments where waste management issues are visible, which can affect their perception of environmental problems and weaken efforts to encourage sustainable behaviors, such as recycling.
- Lack of financial resources: schools often require additional funding to organize environmental projects, workshops, or sustainability infrastructure improvements. Even when funding opportunities exist, they may remain unused if school leaders lack interest or motivation.
- Parental involvement: the long-term impact of school sustainability initiatives often depends on the involvement of families. Many parents lack the knowledge and tools to support sustainable practices at home.
- Weak pedagogical frameworks: many programmes lack a clear educational methodology, leading to fragmented activities that do not produce long-term learning outcomes;
- Reduced contact with nature: children are increasingly distanced from direct experiences in nature, as concerns about safety, liability and parental expectations often discourage outdoor activities, leading to greater reliance on digital tools and virtual experiences as substitutes, which diminishes hands-on, sensory-based learning and direct engagement with the natural environment, further reduces opportunities for schools to cultivate practical, long-term environmental habits.

In Germany, despite broad consensus on the importance of sustainability, significant obstacles remain:

- Time constraints: the most frequently mentioned issue was lack of time. Teachers and students are already under pressure, and sustainability cannot simply be "squeezed in".

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- Financial resources: without sufficient funding, projects such as recycling workshops or energy upgrades cannot be sustained.
- Overloaded curricula: teachers reported difficulty integrating additional topics into already dense lesson plans.
- Teacher preparation: many educators lack the necessary knowledge or confidence to address ecological topics in depth.
- Student motivation: in some contexts, sustainability is not a topic at home, making it harder to engage students.
- Risk of superficiality: participants warned against reducing sustainability to decorative activities or focusing only on fear-based messaging. Both can undermine motivation.

Common obstacles that have been identified during the consultation in Greece are:

- Governance of the educational system and the lack of a holistic strategy for environmental sustainability in education;
- Lack of public funds that could support more resilient and sustainable schools;
- Heavy administrative workload for school head teachers, that leaves not enough time and energy to organize extra activities in schools;
- Less opportunities for upscaling and continuous education for the educators;
- Fractured relationships among teachers who limits themselves strictly to their subject;
- More collaboration with local authorities and the scientific community is needed to provide support to schools;
- The curriculum, with its emphasis on content coverage and national exams and bureaucratic obstacles in organizing activities;
- The undervaluing of environmental issues as secondary (underfunding, lack of specialized material resources).

In Serbia participants identified a range of systemic barriers affecting the effective integration of sustainability education.

- Rigid administrative structures: schools' flexibility is limited, as even relatively simple activities delivered by external organizations often require prior ministerial approval. Experts emphasized that educational reforms progress slowly and are often accompanied by extensive administrative procedures, which can further hinder timely implementation.
- Limited and ineffective communication channels further constrain cooperation: schools frequently do not respond to email invitations, and publicly available contact information is often outdated or non-functional;

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- Insufficient incentives for teachers: environmental initiatives undertaken in addition to regular teaching duties are rarely formally recognised or rewarded.
- Curricular overload and scheduling constraints: many sustainability-related subjects are offered as electives, scheduled at less effective times (for example, at the end of the school day), or affected by irregular student attendance, reducing their impact. Participants also expressed concern that students may lack motivation for these extra learning activities.
- Extracurricular saturation: Experts noted that many students are already heavily engaged in activities outside school, such as sports, extra classes, or private tutoring, limiting their availability for new sustainability-focused initiatives.
- Political sensitivity surrounding environmental issues can discourage open discussion. Some teachers reported reluctance to address locally controversial topics—such as lithium extraction—due to concerns about potential backlash;
- Urban-rural dynamics were noted as a differentiating factor: schools in rural or smaller-town contexts often appear more open to collaboration, whereas larger urban schools tend to be subject to more complex bureaucratic procedures.
- Limited public awareness: broader societal understanding of sustainability remains limited, which may affect recognition and support for these topics in schools.

6. The role of local communities: synergies with schools to address sustainable practices

Local communities play a crucial role in embedding sustainable practices within schools. The consultations highlighted the importance of creating synergies between schools, local authorities and organizations to drive lasting environmental change. Through active partnerships with schools, local communities can play a key role in supporting the extension of environmental education beyond the classroom, thereby contributing to the promotion of a culture of sustainability across society.

In Italy, key areas where local communities can assist schools include:

- Parental engagement: students can act as entry points to engage families in sustainability efforts. For instance, involving parents in hands-on activities, such as plant adoption programs or co-hosting workshops, can amplify the environmental impact of school initiatives. These activities help translate school-based learning into sustainable practices at home and foster stronger community ties.

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- Community partnership: local organizations and experts can offer valuable resources and expertise. Collaborations with non-profits, environmental agencies and local businesses can lead to the creation of meaningful, hands-on learning experiences for students. Initiatives like neighbourhood tree-planting projects or green space restoration can directly involve students, parents, and local volunteers, creating a shared sense of responsibility for environmental stewardship. Moreover, nature reserves and parks can act as **sustainability laboratories**, allowing students to observe ecological processes and explore sustainable development models. They can also support local activities compatible with environmental protection, such as **sustainable tourism and responsible agriculture**. Even small reserves contribute to environmental awareness and educational experiences, though **stronger political support and investment** are needed to fully harness their potential.
- Urban regeneration initiatives: schools can serve as models of sustainable practices for their communities. By establishing school green committees, partnering with local recycling initiatives, or creating school gardens, students can actively participate in urban regeneration efforts. These projects can provide practical examples of sustainability that both engage the local community and contribute to long-term environmental improvements.
- Local authorities' engagement: must ensure efficient waste management systems and environmental policies that reinforce the educational messages promoted by schools.

In Germany, the discussions highlighted the role of schools as multipliers: by sharing their learning experiences at home, students can positively influence their families and wider communities. In this context, partnerships between schools and local stakeholders are seen as particularly valuable, as they provide additional expertise, resources, and real-world relevance. Examples discussed include:

- Collaborations with waste management services to teach recycling;
- Forestry projects that connect students with biodiversity issues;
- Community-supported agriculture harvest days where families join;
- Local initiatives on mobility and energy saving.

In Greece, a coordinated multi-stakeholder approach was considered essential to strengthening sustainability education.

Local authorities play a key role in improving school infrastructure, establishing clear environmental policies, integrating sustainability objectives into educational strategies, and providing funding or incentives for green upgrades (e.g. energy-efficient lighting, renewable energy solutions, and improved waste management systems). Environmental NGOs,

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community groups and private organisations can further support schools by offering structured programmes, teaching materials, hands-on activities (such as school gardens, upcycling initiatives, biodiversity projects, recycling campaigns, and clean-up actions), as well as financial sponsorship for environmental initiatives. In addition, the involvement of experts—including environmental scientists, engineers, agronomists, foresters, and sustainability consultants—can enhance the quality and credibility of interventions. Their contribution may include auditing school practices, recommending practical improvements, monitoring progress, and informing students about career pathways in environmental and green sectors.

In Serbia, participants emphasized the critical role of community involvement in sustainability education, as support from parents and the community can enhance student engagement. Civil society and local environmental organisations can provide educational content, expertise, hands-on experiences, workshops, and site visits, while collaboration with pedagogues and student support staff offers additional avenues for engagement and helps connect theoretical knowledge with practical field experience. Establishing cooperation often relies on direct personal contact rather than email, as administrative structures frequently pose barriers. Some participants emphasized that teachers should continue to lead educational change, while external organisations can provide valuable support, offering financial, logistical or complementary assistance.

7. Recommendations

In light of the results, findings and conclusions presented in the previous sections, the following recommendations are proposed to address current challenges and strengthen the long-term, systemic integration of sustainability education across the countries involved in this analysis.

They are addressed to schools and the policy-making institutions responsible for school management and planning, highlighting key improvements to make sustainability an integral part of both the curriculum and the daily life of students, teachers and the wider school community.

These recommendations aim to support the green transition by promoting transformative learning approaches, fostering multi-level governance and stakeholder engagement, and ensuring alignment with relevant European strategies and priorities for the systematic integration of sustainability into school education.

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- **Early introduction of sustainability education:** introduce sustainability education at preschool to develop foundational skills, attitudes, and lifelong learning behaviours;
- **Curriculum-wide integration:** embed sustainability transversally across all subjects to foster critical thinking and a holistic understanding, complemented by the introduction of a dedicated interdisciplinary course on education for sustainability. This course should carry appropriate weight within the final assessment framework to ensure its academic relevance and to avoid it being perceived as secondary;
- **Experiential and competence-based learning:** implement hands-on, project-based approaches, including outdoor activities, laboratories and student co-design projects (e.g. gardening, local biodiversity projects, recycling systems, and urban greening initiatives) to connect theory with real-life experiences, enabling students to engage directly with sustainability practices;
- **Structured extracurricular programmes and youth participation:** formalize extracurricular sustainability initiatives, such as green committees, school-led environmental projects, or student-led programs, to complement classroom learning. Empower student parliaments and youth groups to take a leading role in these initiatives, fostering peer learning and knowledge-sharing within younger generations to strengthen sustainable values and promote active engagement in sustainability across the school community;
- **Competence development for students:** promote critical thinking, practical environmental skills, critical consumer literacy, civic competences and reflective practices to prepare students to engage effectively with sustainability challenges;
- **Present environmental issues through empowering, action-oriented narratives:** focus on solutions and local actions, avoiding fear-based messaging, and communicate in a way that empowers students rather than overwhelming them;
- **Comprehensive teacher professional development:** establish mandatory, accredited, and continuous professional development programmes to equip teachers with the knowledge, pedagogical approaches, and environmental competencies necessary to effectively deliver sustainability education, supported by structured guidance and high-quality teaching materials. This should include the formal allocation of dedicated time within teachers' official workloads to plan, implement, and evaluate sustainability-related activities;
- **Embrace a whole-school approach:** position sustainability as a cross-cutting priority, embedded in all aspects of school life, from governance and teaching practices to school culture and daily routines, rather than as a standalone subject;
- **School-based environmental action:** encourage greening of school spaces, recycling initiatives, urban regeneration projects, and student-community co-management to strengthen experiential learning and community engagement;

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- **Presenting positive, empowering examples:** by highlighting real-life stories, peer achievements or successful initiatives, educators can help students understand that their choices and efforts matter, inspiring them to become proactive agents of change within their communities;
- **Strengthen communication infrastructure:** schools should maintain accurate, up-to-date contact channels and provide timely, consistent responses to educational offers and inquiries, fostering clear and reliable communication;
- **Policy support and resource allocation:** develop national guidelines related to sustainability education - with local flexibility, ensure sustained funding and foster collaboration with regional, European, and local initiatives to embed sustainability education across school governance;
- **Engagement of local communities and families:** involve parents, associations, businesses, municipal services and community organizations to coordinate initiatives, in order to reinforce sustainability practices beyond the school and promote a culture of environmental responsibility at the community level;
- **Establish national Learning Hubs for Education for Sustainability:** create national or regional hubs that consolidate existing programs, projects, and methodologies related to sustainability education. These hubs would enhance coordination, facilitate the sharing of resources and best practices, and promote a coherent, shared vision, fostering a common understanding and collective commitment to Education for Sustainability nationwide.
- **Systemic educational reform** to ensure that environmental sustainability becomes a fundamental component of education and citizenship.

Conclusion

The consultation events conducted within the UpSpace project's countries – Italy, Germany, Greece and Serbia- emphasize the pivotal role of schools in promoting environmental awareness, developing practical competence and fostering a sense of civic and community responsibility among students. Sustainability education is both necessary and achievable, but its effectiveness relies on structural support, clear policy frameworks and coordinated action among teachers, schools, communities and external stakeholders.

The consultations highlighted that the foundation for strong sustainability education already exists—committed teachers, active civil society organisations and motivated students—but these efforts are constrained by heavy curricula, exam pressures and limited funding for teacher training and experiential learning. In some countries, school infrastructure also lacks green spaces, energy efficiency and recycling facilities. An integrated policy is needed to

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combine theoretical instruction with practical actions, promoting environmental education as a holistic approach that fosters empathy, cooperation and awareness.

Participants consistently emphasized that while schools alone cannot solve environmental challenges, they play a crucial role in nurturing awareness, skills and commitment from an early age, helping to cultivate responsible citizens who can contribute to a sustainable future and complement broader efforts to raise public understanding of sustainability issues.

Early introduction of sustainability education, starting at the preschool level, is essential to cultivate foundational skills, attitudes and behaviours that foster lifelong learning and environmentally responsible citizenship. To be effective, sustainability must be clearly integrated into curricula, supported by dedicated funding and reinforced through practical, hands-on activities. Experiential and competence-based learning, including outdoor investigations, laboratories, living classrooms, and co-designed projects, were consistently identified as effective approaches for engaging students and translating abstract concepts into tangible, actionable knowledge. Such evidence supports the need for a systematic, whole-school approach that embeds sustainability principles across curricula, extracurricular activities and institutional practices.

To support this process, teacher capacity and preparedness are key determinants of success. Structured, accredited and ongoing professional development is essential to equip teachers with both subject-specific knowledge and facilitation skills, enabling them to lead participatory, reflective and project-based learning. Establishing dedicated teaching roles for sustainability education can ensure coherent, high-quality delivery and help overcome fragmentation in implementation.

However, the integration of sustainability must move beyond the initiatives of committed individuals to become a systematic, everyday component of education, embedded both structurally and culturally within the education system. Consultations, in fact, highlighted the importance of collaboration with local communities, families and external organizations, including environmental agencies, non-profits and local businesses. Such partnerships offer practical learning opportunities, strengthen community engagement and reinforce sustainable behaviours beyond the classroom. Initiatives like urban regeneration projects, school gardens, recycling programs and landscape studies allow students to directly experience the impact of their actions while fostering a sense of shared responsibility.

Sustainable change requires policy support, institutional oversight and stable resources. National guidelines should provide a clear framework while allowing for regional adaptation, ensuring that successful practices can be scaled and integrated into mainstream school

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governance. The goal is not to create temporary initiatives, but to make sustainability a routine part of school life, cultivating responsible citizens who can actively contribute to a sustainable future.

Finally, by combining policy, teacher capacity, community engagement and experiential learning, sustainability education can move from fragmented initiatives to a coherent, long-term strategy that equips students with the knowledge, skills and mindset needed to address present and future environmental challenges effectively.

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