



PEDAGOGICAL GUIDE



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Introduction

This Pedagogical Guide provides a comprehensive, structured, and collaborative framework for understanding and engaging with sustainability. Across Europe, environmental education is gaining momentum, yet many young people still lack meaningful opportunities to understand sustainability and take action in their communities. While the importance of environmental issues is widely recognized, the question remains: how can we effectively prepare the next generation to build a more sustainable future?

Europe stands at a decisive moment. On one side, the green transition is reshaping our societies; on the other, the digital revolution is redefining how we live, work, and learn. At the intersection of these forces lie our schools and youth centers where educators and young people are asked to lead the change, often without the time, guidance, or resources they need.

This Guide responds to that challenge. By introducing key concepts and offering a clear structure, it aims to empower educators and youth workers to create meaningful learning experiences that foster **“green competencies.”** It is divided into three interconnected parts that support every step of the sustainability learning journey.

The first part lays the conceptual foundation, introducing **“GreenComp”** and the principles of teaching for sustainability. The second part explores sustainability values, inviting educators to reflect on how to embody them, think critically, and imagine sustainable futures. The third part focuses on taking action, providing concrete examples, activities, and tools that translate knowledge into practice.

By outlining the pedagogical principles that guide the EcoQuest 2 project, this Guide serves as both a foundation and an inspiration. It supports the development of innovative educational experiences such as **the project’s video game and Live Action Role-Playing (LARP) game.** It strengthens educators’ capacity to promote environmental citizenship, critical thinking, and to foster engagement among young learners.

This Guide is divided into three interconnected parts, each designed to support educators throughout their sustainability teaching and awareness journey. The first part lays the conceptual foundation, introducing GreenComp and teaching for sustainability. Building on this groundwork, the second part delves deeper into sustainability values. It explores how to embody them, think critically (e.g., spotting greenwashing) and what future could we envision based on these keyed values. The third and last part focuses on acting for sustainability. It provides concrete examples of activities and tools to act for sustainability. By clearly defining the principles and objectives that guide the EcoQuest 2 project, this guide provides a solid pedagogical foundation for all deliverables. It supports the creation of more meaningful and impactful educational experiences and it serves as inspiration and references for the development of the EcoQuest 2 project’s own educational games (video game and LARP). Thus, strengthening educators’ understanding of environmental citizenship and critical thinking.

Understanding GreenComp in education

What is Green Comp?

Imagine you're asked to integrate sustainability into your work. What does it mean? Does it involve recycling your paperwork, commuting by bike, encouraging students to adopt a vegetarian diet, or engaging in activism?

Or perhaps all of the above?

That's what GreenComp is for.

GreenComp is a European reference framework that explains what sustainability as a competence actually means “and how it can be developed through the educational system” (JRC, 2022). In other words, it helps you move from “students should care about the planet” to “students can analyse systems, imagine alternative futures and take meaningful action together”. GreenComp is the response to “the growing need for people to improve and develop the knowledge, skills and attitudes to live, work and act in a sustainable manner” (JRC, 2022). Many people want to act but feel stuck somewhere between information overload and a sense of powerlessness. Developed within the framework of the European Green Deal, this “catalyst” is here to promote strategies and fill the gap between theoretical knowledge and attitudes. It raises awareness of environmental challenges, encourages systems thinking and empowers both collective and individual actions.

GreenComp is basically a shared roadmap for “learning to live well on a “finite planet”, written in a language that teachers and youth workers can actually use. It turns big words like “sustainability” and “green transition” into concrete, teachable competences that you can build into lessons, projects and everyday practice.



The 4 competences areas and 12 competences

GreenComp is structured around four interrelated areas, each with three competences. You can think of them as four “doors” into sustainability learning: **values, complexity, futures, and action.**

1) Embodying sustainability values

This first area is about what we care about and how that shows up in our choices. It includes:

- **Valuing sustainability**

This is about recognising why sustainability matters in the first place. Learners start to see that how we live today affects other people, other species and future generations. They can name what they value (e.g. justice, wellbeing, biodiversity) and use those values as a compass in daily life and decision-making.

- **Supporting fairness**

Sustainability is not just about the environment. It is also about who benefits, who pays the price and whose voices are heard. Supporting fairness means taking into account inequalities (local and global), understanding concepts like climate justice, and caring about fair and decent livelihoods for all. In practice, this might look like questioning whose perspectives are missing in a textbook or in a local project.

- **Promoting nature**

Here, the focus is on recognising that humans are part of nature, not separate from it. It involves appreciating biodiversity, the resources nature provides and feeling a sense of responsibility and care towards them. Learners move from “nature is somewhere out there” to “my life depends on healthy ecosystems and my actions impact them”.

Together, these competences help learners anchor sustainability in their own values and identities. It makes sustainability personally meaningful. Without that, sustainability can remain just another abstract topic for exams.

2) Embracing complexity in sustainability

This second area deals with how we think about “messy”, interconnected issues. It helps learners understand that there are no simple, “one size fits all” answers to sustainability challenges.

- **Systems thinking**

This competence is about understanding how elements are interconnected and interact within systems. It is about seeing connections. Learners explore how elements of a system (for example, food production, transport, culture, politics, personal habits) influence each other. Systems thinking also means understanding that changing one part of a system can have unintended effects elsewhere.

- **Critical thinking**

Here learners learn to question information, assumptions and dominant narratives. They ask: Who is telling this story? What evidence is used? Who might benefit if we keep doing things this way? Instead of blindly accepting green messages, they can spot greenwashing, identify biases and compare alternative explanations.

- **Problem framing**

How we define a problem shapes which solutions we consider. Problem framing helps learners describe sustainability challenges from multiple perspectives. It clarifies what is at stake and helps them decide which aspects to focus on.

This area encourages learners to tolerate uncertainty, work with tensions and see that habits and cultures are deeply embedded yet not unchangeable. That mindset is essential when working on climate, biodiversity, or social justice.

3) Envisioning sustainable futures

Imagine if sustainability were discussed only in terms of crises. People would understandably feel overwhelmed. This third area instead invites individuals to imagine different futures and their role in creating them.

- **Futures literacy**

Futures literacy is the ability to explore different possible futures and to understand that the future is not predetermined. What might happen if we continue as we are? What other pathways could we choose? What would a good life look like within planetary boundaries? The future isn't just to be predicted. It's a space to imagine, explore, and shape.

- **Adaptability**

It's not a secret: sustainability transitions involve change, and change can be uncomfortable. Adaptability means being willing and able to adjust behaviour, plans and attitudes when circumstances shift. It has both an individual and a collective side: supporting each other through change makes it easier and more inspiring.

- **Exploratory thinking**

This is the creative side of futures work. Instead of asking ourselves "What's realistic?" too early, we play with "If anything was possible, what would I do for sustainability?"

These competences leave space for hope, creativity and agency.

4) Acting for sustainability

This last area is often the most motivating for young people: turning ideas and values into concrete actions.

- **Political agency**

Political agency is not only about party politics. It is about understanding how decisions are made in society, recognising your right to be involved and knowing different ways to influence change.

- **Collective action**

Sustainability challenges are too big to tackle alone. Collective action is about working with others towards shared goals: designing and implementing projects, negotiating roles, resolving conflicts and celebrating progress. Moreover, collaboration makes action more enjoyable and resilient.

- **Individual initiative**

At the same time, individual choices and small-scale actions matter. Individual initiative is about spotting opportunities, taking responsibility and starting something without waiting for permission.

This final area closes the loop: from values and understanding, through complexity and futures, to concrete action in the world. It's important to note that GreenComp does not oppose individual and collective action. It views them as complementary.

Why GreenComp works well? Why does it matter?

From an educator's perspective, GreenComp works because it is both **structured** and **flexible**.

First, it **offers a clear, shared language**. Instead of vague goals like “raise awareness about climate change”, you can plan around specific competences such as “systems thinking” or “collective action” and discuss them with colleagues and partner organisations.

Second, **the framework matches the reality** of sustainability issues. It connects values, cognitive skills, futures thinking and action. That mirrors the actual learning journey many young people go through: caring about something, trying to understand it, imagining alternatives, then acting (and often looping back). Another great aspect is that because the competences are interconnected (not linear), you **can start where your learners are and build connections over time**.

Third, GreenComp is **not restrictive**. It does not tell you which topics to teach or which methods to use. Instead, it provides a reference you can adapt to your context: an urban vocational school, a rural youth centre, a university course, a nonformal training. **This flexibility** is particularly important in Europe's diverse educational systems and cultural settings.

Last but not least, the framework naturally **encourages innovative pedagogies**: project-based learning, interdisciplinary work, roleplay, youth-led initiatives, etc. These engaging activities invite learners to map systems, reframe problems, imagine futures and organise collective actions to deepen their understanding of sustainability.

Why does this matter so much?

Because we know that policy agreements, green technologies and financial incentives, while crucial, are not enough by themselves. Long lasting change needs people who think holistically, who can question current worldviews, who feel able to act individually and with others to shape fairer/more sustainable futures. And that is exactly what GreenComp is designed to support.

Although GreenComp won't magically solve climate crisis or rewrite education systems overnight, it offers a clear, shared, flexible framework of what “learning for sustainability” can look like.

Teaching for Sustainability: From Framework to Practice

Teaching about sustainability vs teaching for sustainability

There is a difference between “teaching about sustainability” and “teaching for sustainability”.

Teaching about sustainability means sharing knowledge: climate change, biodiversity loss, pollution, energy systems, consumption patterns, or the Sustainable Development Goals. This is necessary because learners need a basic understanding of the issues before they can engage with them. But if education stops there, sustainability remains mainly a topic to know about (not something to live, question, or shape).

Teaching for sustainability goes a step further. It uses sustainability not only as content but as a “purpose” and a method of learning. The goal is not just to know facts about environmental problems, but to develop the competences needed to respond to them in real life. That means helping learners think critically, see connections between environmental, social and economic systems, imagine alternative futures, and act with others in meaningful ways. In other words, teaching for sustainability is about “shaping” capable, reflective, and active citizens.

From a pedagogical perspective, this distinction matters because many sustainability challenges are not solved by information alone. Learners may know that plastic waste is harmful or that climate change is urgent but still feel powerless or disconnected from action. “GreenComp” fits here well, because it encourages education that supports values, systems thinking, futures thinking and action. It does not treat sustainability as a separate subject only, but as a way of learning across subjects and contexts.



GreenComp in formal, non-formal and informal settings

One of the biggest strengths of GreenComp is that it works across different settings: formal, non-formal and informal learning. It is flexible enough to fit different educational realities while still offering a shared language for sustainability competences.

Formal settings

In formal education, such as schools, vocational education, and higher education, GreenComp can be used to integrate sustainability into curricula, subjects, and teacher planning. The case studies in the **“Technopolis Group and 3s report”**, a research report that presents examples of how GreenComp is applied in Europe, show that educators have used GreenComp to develop learning materials, embed sustainability into existing courses, and design competence-based activities across levels from primary education to VET. The framework is especially useful when schools want to move from isolated environmental lessons to a more coherent approach across subjects.

In formal settings, GreenComp helps teachers ask practical questions:

- “Which competences are already addressed in our curriculum?”
- “Where are the gaps?”
- “How can sustainability be linked to maths, science, language, civics, or arts?”
- “How can we assess progress in a way that values not only knowledge but also attitudes and action?”

This analytical report by Technopolis Group also shows that implementation often works best when schools adapt GreenComp to their local context rather than applying it “rigidly”. This aspect is important because schools differ widely in culture, resources, student needs, and national policy expectations.



Non-formal settings

GreenComp is especially powerful in non-formal education, such as youth work, workshops, camps, exchanges, and community projects. In these settings, educators have more room to use participatory methods, hands-on activities, dialogue, and collective action. The European Commission's examples show how GreenComp can support youth projects that connect learning to real-world change, especially through “acting for sustainability” (the fourth competence area).

This is where GreenComp becomes very concrete. Young people are not only discussing sustainability, but they are also organizing campaigns, designing local solutions, participating in partnerships, and reflecting on their own role in society. Research on environmental education shows that civic engagement is strengthened by local focus, participatory methods, action components, cognitive challenge, and social interaction. These are all highly compatible with GreenComp and help explain why non-formal learning is such a strong environment for sustainability competences.

For youth workers, GreenComp can be a helpful planning tool. It can guide the design of activities that develop collective action, political agency, and individual initiative. It also helps youth workers explain to partners and contributors what kinds of competence growth a project is aiming for.

Informal settings

Informal learning is less structured and happens in daily life: at home, with friends, online, in the neighbourhood, in hobbies, or through social media. GreenComp is relevant here too, even if it is not formally “taught”. The framework reminds us that sustainability learning is not limited to classrooms. Learners constantly shape and test values, behaviors and decisions in everyday situations. This aspect is also important because informal settings often influence young people strongly. Conversations with family, peer cultures, community habits, and online content all shape how people think about nature, fairness, and action. Research suggests that adolescents' environmental sensitivity can support civic engagement, especially when family discussion helps activate awareness into action. That means emotional connection, everyday conversations, and lived experience matter a lot (Valenti et al., 2023).

Common challenges for educators and how to address them

Implementing sustainability education with GreenComp is not always easy:

1. Sustainability can feel too broad

A major challenge is that sustainability is huge. Educators may wonder: where do we begin? The topic can feel overwhelming, especially when it includes climate, nature, justice, economics, consumption, and futures all at once. GreenComp helps by breaking the idea into four areas and twelve competences. Start small: choose one competence, link it to a real issue, and test one project first.

2. Limited time and resources

Many educators face limited time, limited training, and limited materials. The Technopolis Group and 3s report highlights resource needs as a common implementation challenge. Teachers may want to work with GreenComp, but they need ready-to-use examples, guidance, and institutional support. A practical response is to work with colleagues and share materials collaboratively (rather than reinventing everything).

3. Adapting to local context

GreenComp is flexible, but that also means educators have to translate it into their own context. What works in one country, school type, or youth organization may not work unchanged elsewhere. It must be translated to local realities. Treat it as a guide, not a script.

You can ask:

- “What local issue matters most here?”
- “Which competences fit this activity?”
- “What language will my learners understand?”
- “How can I connect global sustainability to local life?”

4. Turning knowledge into action

Another common challenge is the gap between awareness and action. Learners may understand problems but still not feel ready to act. Thus, it is of paramount importance to include real choices, teamwork, decision-making, and clear links between learning and action.

5. Avoid creating despair

Sustainability topics can feel heavy. The key to make it look “lighter” is to find a good balance between seriousness and hope. What does it mean?

It means acknowledging the scale of the challenge but also leave space for feelings, examples of change, and concrete ways to contribute. Hope in sustainability education should not mean pretending everything is easy. It should mean helping learners believe that informed, collective action matters (Vandaele & Stalhammar, 2022).

Pedagogical Approaches & Learning Methods

(NFE, experiential, inclusive)

Education for sustainability thrives when learners are actively engaged, emotionally invested, and able to connect learning experiences to real-world challenges. This section presents three interconnected approaches (non-formal and experiential learning, project-based and participatory learning, and inclusive and accessible education) that together form the pedagogical foundation of the “EcoQuest 2” project.

- **Non-formal and experiential learning**

Non-formal learning (NFE) provides a recognised space for young people to develop competences beyond the classroom. It is characterised by flexibility, voluntary participation, learner-centered design, and practical relevance. As the Council of Europe and the European Commission’s Youth Partnership highlight, youth organisations are key providers of non-formal learning, fostering civic engagement, democratic participation, and personal growth.

In the context of sustainability education, NFE allows young people to learn by doing. It’s about transforming theoretical knowledge into authentic experiences. Grounded in David Kolb’s Experiential Learning Theory, experiential learning operates in cycles: **experience → reflection → conceptualisation → experimentation**. Through this iterative process, learners deepen understanding and internalise values linked to sustainability and active citizenship (Kolb , 1984).

Practical examples include outdoor environmental investigations, community-based projects, simulations, and collaborative problem-solving games. By confronting real challenges, learners move from awareness to action. They develop the competences described in the European Sustainability Competence Framework (GreenComp).

In the digital age, experiential learning can also integrate hands-on interaction with digital tools and simulations. It enables learners to visualise and experiment with complex systems (e.g., circular economy models or carbon footprint trackers). Such immersive methods strengthen connections between abstract concepts and perceivable realities (Beckem & Watkins, 2012). It makes learning both relevant and transformative.

- **Project-based and participatory approaches**

Project-based and participatory learning extend experiential education by placing young people at the center of their own learning journey. Instead of interacting with predefined content, learners co-create knowledge through projects that address real sustainability challenges. This approach builds autonomy, collaboration, and systems thinking (skills that are essential to managing today's global transitions).

A concrete example is the European Students' Union's initiative "YOU(TH) ACT FOR FUTURE", which linked the Sustainable Development Goals (SDGs) to non-formal, participatory education. Through capacity-building workshops and youth engagement, this project helps participants connect local actions to global sustainability priorities.

Youth organisations can also align their NFE initiatives with the Eurydice Report "Learning for Sustainability in Europe" (2024). The report recognises competence-based, cross-disciplinary learning as a key policy direction in European sustainability education. In this perspective, non-formal education complements formal curricula. It provides an holistic learning ecosystems across schools, youth centers, and local communities.

- **Inclusivity, accessibility and working with diverse learners**

Sustainability is linked to inclusion. But what is inclusion? Inclusion is about ensuring that every participant can contribute meaningfully according to their strengths. Inclusive and accessible education recognises diversity not as an obstacle but as a source of creativity, innovation, and collective intelligence. Thus, incorporating inclusive practice to sustainability education is of paramount importance. What's the point of imagining promising, sustainable futures if we don't welcome differences in ability, background, and learning style.

Welcoming differences includes:

- Using clear, concrete language supported by visuals or symbols.
- Allowing extra time to process information and respond.
- Offering multiple forms of participations: spoken, written, visual, or digital.
- Having a quiet and safe learning environment that minimise sensory overload.

And what about accessibility?

Accessibility goes beyond physical adaptations. It encompasses clarity in communication, balanced pacing, and thoughtful multi-sensory design (all of which benefit every learner). Working with diverse learners, such as those with Specific Learning Disorders (e.g., dyslexia, dyscalculia, ADHD), calls for specific methods. Non-formal education is particularly effective here. As mentioned, NFE values personal expression and creativity over standardised assessment.

Let's all make sure that sustainability education is accessible to everyone.



Embodying Sustainability Values

(Area 1)



The first area of GreenComp is built around **three competences: valuing sustainability, supporting fairness, and promoting nature**. Before individuals or communities can begin to address environmental or social challenges, they must first reckon with what they believe, what they care about, and how those beliefs and values shape the way they see the world. The three competences in this area are not simply abstract ideals. They are the ethical orientation that gives the entire framework its direction.

Valuing sustainability begins with self-awareness. It asks individuals to reflect on their personal values and to examine how those values relate to broader questions of sustainability. It involves recognising that values are not fixed or universal, they shift across cultures, generations, and circumstances.

What does it mean to live with green values?

Green competencies are not just understanding sustainability as an abstract concept, but **embodying it**. They are about developing the values, habits, and sense of agency from which meaningful action can grow.

Young people today are surrounded by information about the environmental crisis. Many are familiar with the scale of the problem. What is less commonly offered is the space to engage with a more personal question: **How does it affect my life, and what do I actually value?**

Sustainability values are grounded in the recognition that human well-being is interconnected with the health of the planet. These values include environmental stewardship, equity, responsibility, and long-term thinking. They emphasize that current actions must not compromise the ability of future generations to meet their needs. A core aspect of sustainability values is responsibility, both individual and collective. Young people need to understand that their daily choices, such as consumption habits or waste management, have broader environmental consequences.



Supporting fairness



Supporting fairness is where sustainability and social justice meet.

The core insight is straightforward but often uncomfortable: **those who have contributed least to the ecological crisis are frequently the most exposed to its consequences.**

- Communities in vulnerable regions dealing with drought and flooding.
- Indigenous peoples whose lands have been mined or cleared.
- A new industrial facility gets built next to a low-income neighbourhood rather than a wealthy one.
- Future generations who had no say in the decisions that shaped the world they'll inherit.
- Young people themselves, who are growing up with the consequences of choices made decades before they were born.

Supporting fairness means asking: **who benefits from this, and who pays the price?** Learning from those who've been navigating sustainability out of necessity for generations as knowledge holders whose experience often runs deeper than any policy.

We are not isolated individuals, we are part of complex webs of relationships with ecosystems, with communities, with people across the globe whose lives are shaped by the same planetary systems. Green values invite us to see ourselves as fundamentally relational beings, and to act with a sense of solidarity that reaches beyond our immediate circle.

These values show up in our everyday choices, what we eat, how we travel, what we buy, how we talk about the world. And they show up in the culture of our youth groups, organisations, and learning spaces.

Promoting nature



Promoting nature invites a fundamental reconsideration of one of the dominant assumptions of modern life: that humans stand apart from, and hold authority over, the natural world.

The dominant story of the last two centuries has been one of humans conquering nature: taming rivers, clearing forests, extracting resources, reengineering landscapes. That story has brought benefits, but it has also brought us to a point of serious ecological crisis. Promoting nature means stepping back from that story and replacing it with a different one - **one in which humans are part of ecosystems.**

Popular culture can also help people think more about their relationship with nature. For example, new Pixar film **Hoppers** (2026) shows a story about a girl who connects with animals to protect their habitat. The film encourages people to better understand and care more about nature. It is a nice watch!

Reconnecting with nature is foundational. You don't fight for what you don't feel connected to. These ecosystems have a right to exist, and we have a responsibility toward them.

As the **EcoPatrol framework** highlights, meaningful environmental learning begins not with facts, but with fostering this felt sense of belonging to the natural world. In non-formal education, this value is often awakened through direct experience: time spent outdoors, slowing down, paying attention to what's around you (EcoPatrols, 2024).

From knowing to being

Rather than positioning young people as passive recipients of environmental information, it frames learning as an active process of personal and collective exploration that engages curiosity, emotion, and reflection in equal measure. The goal is not to fill young people with correct environmental knowledge, but to support them in developing their own meaningful relationship with sustainability (EcoPatrols, 2024).

Demonstrating genuine curiosity about the natural world, reflecting openly on one's own values and choices, and creating a group culture in which sustainability is approached as a shared inquiry rather than an obligation are some of the ways in which youth workers can embody this first area of GreenComp in practice. For youth workers looking for structured starting points, the SALTO Toolkit on Green Soft Skills (Marchese et al., 2024) offers a range of non-formal education activities specifically designed around the competences in this area, from values reflection exercises to outdoor team-building activities focused on nature connection.

Area 1 of GreenComp begins with the question of who we are and what we care about. Engaging with these three competences means developing not just knowledge about the ecological crisis, but a personal relationship to it.





Thinking Critically About Sustainability

(Area 2)

The three competences in this area, **critical thinking, systems thinking and problem framing** equip individuals to resist simplistic narratives and to engage with the genuine messiness of the world as it is.

Being sustainability-literate means more than caring, it means knowing how to tell the difference. If the first area asks us to reflect on what we value, this one asks us to examine how we think. This section of GreenComp focuses on the skills we need to understand sustainability problems honestly which means sitting with complexity, questioning what we're told, and resisting the appeal of easy answers.

Together, these three competences form something like an intellectual toolkit for navigating a world that is genuinely complicated and where the ability to think clearly is increasingly valuable.

Critical thinking



Critical thinking in the context of sustainability means actively examining the sources of information, the assumptions embedded in arguments, and the interests that may be shaping how sustainability is framed and discussed. That includes turning the critical lens on yourself and noticing how your background, education, and social position shape what you think as well as the messages coming from companies, governments, and even the organisations you trust.

One of the clearest examples of why critical thinking matters in sustainability is **the phenomenon of greenwashing**. Greenwashing refers to the practice by which companies, products, or policies present themselves as environmentally responsible without making meaningful changes to their actual practices. It exploits the growing public appetite for sustainability while actively obstructing the systemic changes needed to address climate breakdown and ecological crisis.

In an era of information overload, developing critical thinking skills is essential for understanding sustainability. Environmental issues are complex, interconnected, and often influenced by political and economic interests. Young people must be equipped not only with knowledge but also with the ability to question, analyse, and evaluate information.

Critical thinking is essential for navigating the complexities of sustainability. By developing skills such as **analysis, evaluation, and reflection**, young people can become informed and empowered participants in environmental decision-making. Addressing issues like greenwashing further strengthens their ability to act responsibly in a complex and often misleading information landscape.

Here are some patterns worth knowing:

- A clothing brand launches a capsule collection made from recycled ocean plastic. The headline is compelling. Meanwhile, the company produces billions of garments a year, mostly synthetic, in factories running on coal power. The sustainable line is real, but it represents a fraction of total production. The positive narrative does the work of signalling change without the brand having to actually deliver it.
- An airline offers passengers the option to offset their flight's carbon emissions by contributing to a tree-planting scheme. The logic seems sound. However, trees take decades to reach maturity, may be planted in ecosystems where they do not naturally belong, and are often located on land that was already under protection. There is also no guarantee that the trees will not be logged in the future. The emissions from the flight, meanwhile, entered the atmosphere immediately and will remain there for over a century. Carbon offsetting as currently practised tends to postpone the structural changes the aviation sector needs to make, rather than substituting for them.
- An oil company runs advertising campaigns highlighting its investments in renewable energy, featuring wind farms, solar panels, and the language of a clean future. These claims are not necessarily false. What they omit is that renewable investments typically represent a small fraction of total capital expenditure, while the majority continues to flow into new oil and gas extraction. The advertising creates an impression of transition that the company's actual spending does not support.
- A corporation announces it will be carbon neutral by 2050. The pledge sounds significant. The more useful questions, however, are what the company is doing now, whether its current trajectory is consistent with limiting warming to 1.5°C, and who will be held accountable when the deadline arrives. Long-term climate commitments are only meaningful when they are backed by short-term targets, transparent reporting, and independent verification. Without these, a net-zero pledge for 2050 is difficult to distinguish from a promise designed to be forgotten.

Terms like "**natural**", "**eco-friendly**", "**sustainable**" and "**green**" remain largely unregulated in most markets. As the **Futerra Greenwash Guide** notes, these are examples of fluffy language: words with no clear meaning that any company can place on a product without accountability. Without a recognised certification body, a verifiable standard, or transparent data to support them, such claims function more as marketing signals than as meaningful information.

Why does this matter for youth work specifically?

Because young people are the primary target of a lot of sustainability marketing. They care about these issues, which makes them valuable consumers for brands that want to be seen as caring too. Supporting them in developing the critical tools to evaluate these claims is not about fostering distrust, it is about building the kind of informed agency that allows them to move beyond passive consumption toward genuine understanding and meaningful action.



Systems thinking is the ability to understand how things are connected. Most of us default to linear reasoning: identify a problem, find its cause, apply a solution. This approach works well for straightforward challenges, but most sustainability issues are not straightforward. They involve multiple actors, feedback loops, and consequences that unfold across different timescales and geographies. A change in one part of the system almost always produces effects elsewhere, sometimes in ways that are difficult to anticipate. Systems thinking asks us to take that complexity seriously rather than simplify it away. **They're webs, not lines.**

Lets take **fast fashion** as an example most young people can relate to. The obvious issue is waste. Clothes produced at high volume, worn briefly, and discarded. But a systems perspective draws attention to the **broader network of causes and consequences.**

- Synthetic fabrics derived from fossil fuels.
- Dyeing processes that contaminate waterways in production countries.
- Supply chains built on wages that do not meet basic living standards.
- Marketing strategies designed to accelerate the pace at which clothing feels outdated.

The scale of overproduction makes individual solutions increasingly insufficient. Even the second-hand market can no longer absorb what is being produced. Donated clothing increasingly ends up in landfills abroad rather than finding new owners. Estimates suggest that the volume of clothing already in existence is enough to meet the needs of **the next six generations** (Niinimäki et al., 2020).

Each of these elements is connected, and each reinforces the others. Systems thinking shifts the question from how individuals should manage their consumption to how such a system came to exist, whose interests it serves, and what would need to change for it to function differently. A systems thinker doesn't just ask "should I recycle my clothes?" They ask: **how did we get to a world where clothes are this cheap and this disposable, and who benefits from keeping it that way?**

In practice, systems thinking can be introduced through structured activities that invite young people to map connections, take on different stakeholder roles, or trace the consequences of a single decision across multiple contexts. The **SALTO Toolkit on Green Soft Skills** (Marchese et al., 2024) offers several concrete starting points for this — from whole system mapping exercises to role-playing scenarios that place participants inside competing perspectives. What these approaches share is a commitment to following a problem further than the obvious first answer and remaining curious even when the picture becomes complicated.

Problem framing



Problem framing is the competence that connects the previous two. The same environmental challenge can be framed in fundamentally different ways depending on who is describing it, from what position, and with what assumptions in place.

Climate change is a useful example.

- If you frame it primarily as a technological challenge, the conversation gravitates toward solutions like better batteries, carbon capture, and cleaner energy systems.
- If you frame it as an economic problem, the focus moves to carbon taxes and removing subsidies for fossil fuels.
- If you frame it as a question of justice, the central questions become who caused the crisis, who is most affected by it, and who gets to make decisions about how to respond.

Each of these framings points to something real. But each one also narrows the field of vision. A purely technological framing can sidestep questions of power and inequality entirely. A purely economic framing can treat the crisis as a matter of incentives rather than responsibility. A justice framing, while essential, can sometimes struggle to build the broad coalitions that large-scale change requires.

Problem framing as a competence means being able to recognise which frame is being used, what it makes visible, and what it leaves out.

For youth workers, problem framing is a practical facilitation skill. It means being able to help a group see that there's more than one way to look at a situation - and that the way you frame the question shapes the answers you can find. It means asking: who framed this problem, and who benefits from it being framed that way? It means noticing when sustainability is being discussed as an individual lifestyle choice (recycle more! fly less! eat less meat!) in ways that deflect attention from the systemic and corporate decisions that account for the vast majority of emissions.

Area 2 asks us to hold complexity, to question sources we might find trustworthy, and to resist the appeal of simple narratives and obvious solutions. But it is precisely this capacity for honest, rigorous thinking that makes sustainability action substantive rather than symbolic.



Envisioning Sustainable Futures

(Area 3)

The third area of GreenComp represents the creative and forward-looking dimension of sustainability. Having reflected on values and developed the critical tools to engage with the world as it is, this third area asks a different kind of question: **what could the world look like, and how do we begin to move toward it?** The three competences in this Area are **futures literacy, adaptability, and exploratory thinking**.

Future literacy



Futures literacy is a skill developed to help people imagine, use, and understand the future to better navigate complexity and change in the present. It is a competence that enhances creativity, allowing individuals to move beyond traditional forecasting by preparing for multiple, diverse scenarios rather than just one probable outcome.

In the context of sustainability, the future is not a fixed destination. It is actively produced through the **decisions, policies, and practices** of the present. What energy systems we invest in, how we design cities, how we produce food, what economic models we treat as given - all of these choices accumulate into futures. Where the previous areas are concerned primarily with values and critical analysis, this third area shifts the focus toward **vision and possibility**. It asks what a sustainable future might concretely look like, and what capacities are needed to work toward it with both imagination and purpose.

Imagination is a skill and we need it

Futures literacy is about recognising that the future is not predetermined, and that reflecting on multiple possible futures can meaningfully shape how we act in the present.

Although this idea may initially seem abstract, it offers a strong sense of grounding, particularly for young people facing **climate anxiety**, feelings of overwhelm, or a belief that it is already too late to make a difference. Research consistently shows that climate anxiety among young people is significant and growing. A global survey of 10,000 young people aged 16 to 25 found that 59% were very or extremely worried about climate change (Hickman et al., 2021). But the future remains genuinely open. This is not simply a comforting idea, but one grounded in the science of complex systems (Armstrong McKay, 2024). What this means is that change is not always linear or predictable. Under the right conditions, positive shifts can emerge faster and more profoundly than we might expect, opening space for new solutions and directions.

The practical form of futures literacy is scenario thinking. The ability to imagine and explore multiple different futures, not just the one that seems most likely from where we're standing now. What might a world look like in 2050 if we made serious changes in the next decade? What would cities feel like? How would food systems work? What would people's daily lives look like? These aren't idle daydreams, they're orientation tools. One example of this approach in practice is **digital escape game “Solve the Mystery of What Happened to Planet Earth”**, developed as part of the Save and Game project (ELAN, 2023), in which participants take on the role of intergalactic researchers arriving on Earth in 2100 and must piece together what changed and why. So, **the future is being made, and you're part of making it.**

Adaptability

Adaptability helps ensure that vision remains flexible.

Pathway toward a more sustainable future is non-linear. Interventions often produce unintended consequences, technologies evolve in unexpected directions, and political contexts can shift rapidly. Communities may respond in ways that were not anticipated, and ideas that initially appeared promising frequently reveal greater complexity in practice.

- The transition to electric vehicles offers a useful illustration. At first glance, it appears to represent clear and straightforward progress. However, a closer examination reveals a more complex picture. The lithium and cobalt required for battery production are often extracted under conditions that raise serious human rights concerns. In many countries, electricity grids remain largely dependent on fossil fuels, which can limit the overall climate benefits. Electric vehicles are not a misguided solution and they are likely to play an important role in the broader transition. However, navigating this transition effectively requires the capacity to recognise such complexities, learn from them, and adapt accordingly.

Adaptability means staying genuinely curious about what's happening in communities, in ecosystems, and in science, rather than following a fixed model of action.

On a personal level, adaptability also involves something that's worth naming directly with young people: **the ability to tolerate uncertainty and sit with "I don't know yet"** without either collapsing into despair or rushing to false certainty. That's a real emotional and cognitive skill. In a rapidly changing world, it's also an increasingly important one (Lawrance et al., 2023).

Exploratory thinking



Exploratory thinking is the competence that opens the creative dimension of this area. Where futures literacy asks young people to imagine alternative futures, and adaptability asks them to remain open to revision, exploratory thinking asks to approach sustainability as a space for open and genuine questioning.

Some of the most significant sustainability innovations have come from exactly this kind of thinking.

- The concept of the **circular economy** designing products so that materials can be endlessly reused rather than discarded drew on biological principles that engineers had mostly ignored. The idea of community energy co-operatives where local communities own and run their own renewable energy came not from energy companies but from civic activists who asked why energy infrastructure had to be privately owned at all.
- **Regenerative agriculture**, which rebuilds soil health rather than depleting it, drew heavily on indigenous farming knowledge that mainstream agricultural science spent decades dismissing.

Exploratory thinking means bringing creativity to the table, staying curious, resisting premature closure, and being willing to take seriously the idea that the future might look quite different from the present in ways we haven't yet fully imagined.

For youth workers and organisations, cultivating exploratory thinking means creating space, in workshops, in projects, in conversations, where genuinely new ideas can emerge. It means treating young people not as the recipients of sustainability education but as genuine contributors to sustainability thinking.

Area 3 of GreenComp is ultimately concerned with a specific kind of hope. The kind of hope that is grounded in a serious engagement with what is possible, in the recognition that the future remains open, that **human agency and collective action are meaningful forces**, and that the work of building more sustainable societies is already in progress.

Youth workers occupy a particular position in relation to that work. Through their education they help to create the conditions in which young people can develop the knowledge, skills, and orientations needed to engage with it meaningfully.



Acting for Sustainability

(Area 4)

The fourth area of the GreenComp framework, “Acting for Sustainability,” is where knowledge, values and vision translate into concrete action.

While the previous areas focus on what we believe, how we think and what futures we can imagine, this area asks a fundamental question: how do we turn our ideas into meaningful change? It encompasses three interconnected competences: **political agency, collective action and individual initiative.**

For educators and youth workers, this area is particularly important. It bridges the gap between learning about sustainability and actually contributing to sustainable change. Young people are not only future citizens. They are already active participants in their communities. Empowering them to act is essential for building a more sustainable and just society.

Political agency: navigating systems and demanding change



Political agency, as defined by GreenComp, involves the ability to navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.

This does not mean that young people need to become politicians. Rather, it means helping them understand how decisions are made, who holds power, and how they can influence those processes.

Political participation among young people takes many diverse forms. It can be conventional, such as voting or serving on a local youth council. It can also be unconventional, such as taking part in online activism, boycotts or protest movements.

The Council of Europe’s research on meaningful youth political participation highlights that, for participation to be truly meaningful, it must go beyond tokenism. Young people need real opportunities to engage in decision-making, not just symbolic roles (Bárta et al., 2021).

Educators and youth workers can support political agency by:

- creating safe spaces for dialogue on sustainability-related policies;
- organising simulations of democratic processes, such as youth parliaments or model EU sessions;
- encouraging young people to engage with local governance structures;
- helping young people understand how institutions work and where accountability lies.

Understanding how the political system operates is a first step towards demanding change. Even small-scale actions, such as writing a letter to a local representative or participating in a public consultation, can help young people develop a sense of political agency.

Collective action: acting for change together



Collective action refers to the ability to act for change in collaboration with others. Sustainability challenges are, by nature, systemic and interconnected. They cannot be solved by individuals alone.

Working together, whether within a classroom, a community or across borders, is essential for creating lasting impact.

Across Europe, young people have shown a strong capacity for collective engagement. Movements such as **Fridays for Future** and networks like **Generation Climate Europe** demonstrate how young people can come together to advocate for environmental policies at local, national and European levels.

Youth-led organisations are increasingly bridging the gap between **grassroots activism** and **institutional decision-making**. They bring young voices directly into sustainability conversations with policymakers. **Grassroots activism** refers to collective action led by ordinary people at the local level, rather than by institutions or authorities. It involves communities coming together to raise awareness and push for change on issues they care about, such as environmental protection or social justice.

For educators and youth workers, fostering collective action means designing learning experiences where young people collaborate on real-world challenges. **Some effective approaches include:**

- community-based sustainability projects;
- participatory budgeting exercises;
- group advocacy campaigns;
- peer-to-peer learning and mentoring.

The key is to ensure that collective action is not only about achieving an external goal. It is also about building the social and civic skills that sustain democratic participation over time.

Individual initiative: recognising one's own potential



Individual initiative is about identifying one's own potential for sustainability and actively contributing to improving prospects for the community and the planet. It relies on self-awareness, self-efficacy and a willingness to act, even in the face of uncertainty.

It is important to emphasise that individual initiative does not place the burden of sustainability solely on young people's shoulders. Rather, it recognises that **everyday actions matter** and that each person has a role to play.

This can range from making more conscious consumption choices to starting a local environmental project. It can also mean advocating for change in one's school or workplace, or mentoring peers on sustainability topics.

Educators and youth workers can nurture individual initiative by helping young people reflect on their strengths and passions in relation to sustainability. Providing them with concrete opportunities to take the lead is essential.

Youth-led projects are particularly effective in this regard. When young people design, manage and evaluate their own sustainability actions, they develop both competence and confidence. They learn that their contributions matter.

Youth-led projects and community-based initiatives

Youth-led projects represent one of the most powerful ways to put all three “Acting for Sustainability” competences into practice simultaneously.

When young people lead a local clean-up campaign, organise a sustainability awareness event or develop a proposal for their municipality, they exercise political agency, engage in collective action and take individual initiative at the same time.

European programmes such as **Erasmus+** and the **European Solidarity Corps** offer valuable funding and support for youth-led sustainability projects. The EU-funded **ECF4CLIM** project, for instance, actively engaged young people in co-creating 159 sustainability interventions tailored to local contexts. These ranged from environmental improvements to curriculum integration and competence-building campaigns.

Similarly, the training course “**Non-formal Education Activities to Support the GreenComp Framework,**” organised by YouthProAktiv in Brussels in 2024, equipped youth workers with practical methods for engaging disadvantaged young people in sustainable practices at local, national and international levels.

Another relevant example is the **SHARED GREEN DEAL** project, where the “Kids Behind the Wheel” initiative in Panevėžys, Lithuania, involved schoolchildren in urban mobility planning. This showed how young people can contribute innovative solutions to real sustainability challenges in their communities.

The role of the educator or youth worker in supporting these initiatives is crucial. It involves:

- helping young people identify issues they care about;
- providing guidance on project planning and management;
- connecting young people with relevant stakeholders and resources;
- creating space for reflection on the impact of their actions.

The key message is that **acting for sustainability should not be treated as something that happens after learning**. Action is itself a form of learning. By creating opportunities for young people to participate in meaningful projects, to collaborate with peers and institutions, and to reflect on the impact of their actions, we help them develop the competences they need to be active agents of change throughout their lives.



Designing Activities & Using Tools

This section offers practical guidance for educators and youth workers who want to design learning activities grounded in the GreenComp framework.

Moving from theory to practice can feel overwhelming. However, the tools, methods and examples presented here aim to make this process accessible, structured and adaptable to different contexts.

How to design a GreenComp-based activity

Designing a learning activity based on GreenComp does not require starting from scratch. The framework itself serves as a roadmap. Its four competence areas and twelve competences provide a clear structure for identifying learning objectives and selecting appropriate methods.

The following steps can help guide the design process:

Step 1: Identify the target competence(s). Start by selecting which GreenComp competences the activity should address. It is not necessary to cover all twelve competences at once. Focus on one or two that are most relevant to the topic, the group and the local context. For example, an activity about food waste could address “systems thinking” and “individual initiative.”

Step 2: Define clear learning outcomes. Use the knowledge, skills and attitudes (KSA) statements from the GreenComp framework to formulate what participants should know, be able to do or feel after the activity. Keeping outcomes specific and observable helps in both planning and evaluation.

Step 3: Choose appropriate methods. Select learning methods that match both the competences and the group. Non-formal education methods are especially effective for sustainability education. These include role-plays, debates, simulations, storytelling, outdoor learning and creative workshops.

Step 4: Build in reflection. Every GreenComp-based activity should include a moment for reflection. This is where the deeper learning happens. Participants connect the experience to their own values, think critically about what they have learned and consider how to apply it in their everyday lives.

Step 5: Evaluate and adapt. After the activity, take time to assess whether the learning outcomes were achieved. Gather feedback from participants and use it to improve future sessions. GreenComp is designed to be flexible, so do not hesitate to adjust activities based on what works best for your group.

Mapping competences to practice

Mapping GreenComp competences to practice means connecting the framework's learning outcomes to real activities, projects and programmes.

This can be done at different levels:

- within a single session, targeting one competence;
- across a series of workshops, building on multiple competences progressively;
- within a larger project cycle, integrating all four competence areas over time.

When mapping competences, it is helpful to use a **simple matrix**. List the GreenComp competences on one axis and the planned activities on the other. Then mark which competences each activity addresses. This exercise makes it easy to identify gaps and ensure a balanced programme.

This approach also supports the **recognition of learning**. Tools such as Youthpass allow participants to document the competences they have developed during non-formal education activities, which is valuable for their personal and professional growth.

Selected tools and short case examples

A number of resources are already available to support educators and youth workers in designing GreenComp-based activities. Here is a selection of practical tools and examples.

The “**Green Opportunity - Re-design the Future**” (EPALE, 2025) toolkit is a valuable resource for youth workers, as it provides practical non-formal education methods and activities focused on sustainability, circular economy, and environmental responsibility. Through interactive workshops, discussions, and collaborative learning approaches, the publication supports youth workers in helping young people develop critical thinking, active citizenship, and greater awareness of sustainable practices within their communities.

The Toolkit on Green Soft Skills (SALTO Youth, 2024) offers 36 ready-to-use activities aligned with the twelve GreenComp competences. Each activity includes objectives, materials, step-by-step instructions and debriefing questions. The toolkit is available in English, Italian, Slovakian, Slovenian and Spanish.

The GreenComp in Practice compendium (EntreComp4Transition, 2024) presents twelve case studies from across Europe. These illustrate how education and training stakeholders at different levels have integrated GreenComp into their practice. The cases cover primary and secondary education, higher education, vocational training and non-formal education. They offer concrete ideas and lessons learned for anyone looking to bring the framework into their work.

The training course “**Non-formal Education Activities to Support the GreenComp Framework**” (YouthProAktiv, 2024), held in Brussels, equipped youth workers with practical methods for each GreenComp area.

Activities included:

- interconnection mapping for systems thinking;
- debate exercises on preventive actions;
- scenario visualisation sessions for futures literacy;
- a simulation of the European Parliament model focused on sustainability policy-making.

These methods can be replicated and adapted by educators in their own settings.

The **European Commission’s GreenComp Community of Practice** gathers people and organisations working together to develop knowledge, skills and attitudes for sustainable living. It is a valuable space for networking, sharing good practices and accessing new materials as they are developed.

For those looking for additional inspiration, the **SALTO Youth Toolbox** provides a searchable database of training tools and methods. Many of these are specifically designed for sustainability education and can be filtered by topic, competence area and target group.

Practical tips for getting started

Start with what you know. You do not need to be an expert in sustainability to use GreenComp. Start with a topic you are comfortable with and connect it to the framework.

Involve young people in the design. Co-creating activities with participants increases their engagement and ensures the content is relevant to their interests and realities.

Keep it local. The most impactful activities are often those connected to the participants’ own communities. Use local examples, local challenges and local opportunities as starting points.

Connect with others. Join European networks, participate in training courses and share your experiences. Learning from peers is one of the most effective ways to improve your practice.

The most important takeaway is that designing GreenComp-based activities does not require inventing new methods. Many excellent tools already exist. The role of the educator or youth worker is to **select, adapt and combine** them in ways that respond to the needs and realities of their learners.



Conclusion

EcoQuest 2 has shown that sustainability education can be both intellectually rigorous and deeply human. Across the chapters of this guide, a common message emerges: **educating for sustainability is not simply about transferring information on environmental issues, but about supporting learners to understand their relationship with the world, question the systems shaping it, imagine better futures, and take meaningful action within their communities.** GreenComp provides a shared language for this work, but the real strength of the framework lies in how flexibly it can be translated into practice across different settings, age groups, and educational contexts.

The first lesson of this guide is that sustainability begins with values. Before young people can act confidently, they need space to explore what they care about, how they relate to nature, and what fairness means in a world marked by inequalities. This is why educators and youth workers play such an important role: not as experts delivering fixed answers, but as facilitators who create environments where reflection, dialogue, and curiosity can flourish. When learners are invited to connect sustainability with their own lives, the topic becomes less abstract and more personally meaningful.

The second lesson is that sustainability demands critical thought. Environmental challenges are complex, interconnected, and often obscured by misleading narratives, simplistic framings, and greenwashing. Young people need opportunities to practise systems thinking, critical analysis, and problem framing so that they can move beyond surface-level responses and recognise the wider social, political, and economic dimensions of sustainability. These competences are not only useful for understanding problems, they are essential for understanding where change can actually happen.

The third lesson is that the future is not fixed. Futures literacy, adaptability, and exploratory thinking help learners see that uncertainty is not a reason for paralysis, but a space for creativity, resilience, and agency. This is especially important in times when many young people feel overwhelmed by climate anxiety or by the scale of global challenges. By imagining multiple possible futures and staying open to revision, learners can develop a sense of possibility that is realistic rather than naive, hopeful rather than passive.



Finally, this guide underlines that action is itself a form of learning. Acting for sustainability means supporting political agency, collective action, and individual initiative in ways that are grounded in real life and linked to community needs. Whether through a local project, a simulation, a youth-led campaign, or a creative learning activity, young people learn best when they are given the chance to contribute, collaborate, and reflect on the impact of their actions. In that sense, education for sustainability is not preparation for citizenship at some distant point in the future, it is citizenship in practice now.

EcoQuest2 offers educators not a script, but a pathway. It encourages them to start from what they know, adapt to local realities, involve young people in design, and use the many existing tools and resources already available. The publication demonstrates that meaningful sustainability education does not require reinventing everything. It requires intention, openness, and the confidence to connect values, thinking, futures, and action in coherent learning experiences.

As this guide closes, its central invitation remains open: to see sustainability education as a shared responsibility and a creative opportunity. The task ahead is not only to help young people understand the world as it is, but to support them in shaping the world as it could be.



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