

Call Secretariat
JPI Urban Europe / ENUTC

**JPI Urban Europe
Final Report for the General Public
Urban Transformation Capacities**

1. KEY DATA OF THE PROJECT

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| SHORT TITLE | CircularCityChallenge |
| LONG TITLE | Creating a Next-Generation Participatory Contest for Young People to Integrate Circularity in School Curricula |
| PROJECT NUMBER | 42073329 (FFG Grant Agreement Number) 99950325 (Project monitoring system) |
| PROJECT PERIOD | from 01.05.2023 to 31.12.2024 |
| PROJECT WEBSITE | PLATFORM: https://circularcitychallenge.eu/ , WEBSITE: https://project.circularcitychallenge.eu/ |
| KEYWORDS | Education, sustainability, circularity |

2. EXECUTIVE SUMMARY

The CircularCityChallenge is an inspiring project dedicated to equipping future generations with the knowledge and tools to build sustainable, circular economies. By developing a comprehensive curriculum on sustainability and circularity for high schools across the European Union, the project addresses the urgent need to prepare young citizens for active participation in shaping policies for a greener future. Grounded in extensive research on educational practices and sustainability, the curriculum was created in collaboration with a diverse group of stakeholders, including teachers, students, educational experts, sustainability advocates, and governmental bodies. This innovative approach ensured that the content is practical, relevant, and accessible.

Piloted successfully in Austria, Romania, and the Netherlands, the curriculum includes student-focused guidelines, resources for educators, and an online platform hosting a rich library of materials. Additionally, it offers support from the project's consortium, ensuring that schools can easily adopt and implement the program.

The CircularCityChallenge aims to inspire, educate, and empower—laying the foundation for a generation that values sustainability and collaborates with stakeholders to drive meaningful change.

3. PROJECT PARTNERS

| Organisation | Country | Principal Investigator | Email |
|---|-------------|-------------------------------|-----------------------------------|
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4. SUMMARY OF THE CONTEXT AND OVERALL OBJECTIVES OF THE PROJECT

Empowering the next generation to take an active role in shaping a sustainable future is the driving force behind the CircularCityChallenge project. In today's world, the ability to understand the environmental, social, and economic dimensions of sustainability is critical. Individuals should be equipped with a "sustainability mindset" that enables them to connect global challenges—such as climate change and social inequalities—with practical, local solutions. This means learning to think critically, analyze complex systems, and develop innovative approaches that are both environmentally and socially responsible. Education plays a vital role in shaping this mindset, and the CircularCityChallenge seeks to fill key gaps in current educational systems to inspire meaningful action.

The Initial Situation and Challenges

Globally, there is a growing recognition of the need for sustainability education. The European Union, through landmark policies like the European Green Deal and Circular Economy Action Plan, has placed a strong emphasis on preparing citizens for a greener and more circular future. However, despite these efforts, significant challenges remain:

1. **Limited Contextualization of Education:** While schools across Europe teach general skills, sustainability education demands something more specific: interdisciplinary learning that links science, economics, civics, and more to create a comprehensive understanding of how the world's systems interact. Currently, this integration is lacking in many curricula, leaving students unprepared to tackle real-world sustainability problems effectively.
2. **Teacher Training and Overburdened Curricula:** Educators face significant challenges in adopting new topics like sustainability. Many are already managing packed curricula and have little support or professional training tailored to sustainability education. This lack of resources results in a missed opportunity to develop students' understanding and critical thinking on sustainability issues.

Why This Project is Necessary

Sustainability education is not just about knowledge; it's about action. Students need to understand how their individual choices affect the world and how they can contribute to systemic change. The CircularCityChallenge was created to address this urgent need. By developing an innovative curriculum that blends practical learning with real-world problem-solving, the project fills a crucial gap in European education systems. At the same time, it provides support for teachers, equipping them with tools and resources to confidently bring sustainability and circularity into their classrooms.

What makes the CircularCityChallenge stand out is its focus on creating tailored, actionable solutions. The project recognizes that sustainability is not a one-size-fits-all concept. Instead, it requires context-specific approaches that connect students to the unique environmental, economic, and social realities of their communities. By fostering a holistic understanding of these systems, the CircularCityChallenge ensures that students are not just learning about sustainability—they are being empowered to shape it.

The Project's Solutions and Approach

The CircularCityChallenge developed a six-step teaching framework designed to overcome the barriers to effective sustainability education. Its approach includes:

- **Challenge-Based Learning:** Students actively engage with real-world issues, such as reducing waste, combating climate change, or addressing social inequalities. They collaborate on projects

that propose practical, sustainable solutions to local governments, industry leaders, and other stakeholders.

- **Stakeholder Engagement:** The project emphasizes collaboration between students and decision-makers, from municipal governments to business leaders. This ensures that students' ideas have a pathway to implementation, bridging the gap between theory and practice.
- **Support for Teachers:** Recognizing that teachers are key to the success of any curriculum, the project provides clear guidelines, professional resources, and an online platform with a library of materials. This support ensures that educators feel confident and equipped to deliver the program effectively.

Goals, Results, and Broader Impact

The primary goal of the CircularCityChallenge is to empower students to actively participate in policymaking and co-design processes within their communities. By fostering critical thinking, systems analysis, and problem-solving skills, the project prepares young people to take on the challenges of sustainability with confidence and creativity.

The curriculum has already been successfully piloted in Austria, Romania, and the Netherlands, demonstrating its adaptability to different educational and cultural contexts. It includes a comprehensive suite of resources for both students and teachers, along with tools for collaboration and innovation. Importantly, these materials are made publicly accessible, ensuring that schools and educators across Europe can adopt and implement the program. The gallery of the students' projects in pilots is available at project's web site <https://circularcitychallenge.eu/circularity-heroes/>.

Beyond the classroom, the CircularCityChallenge has a broader mission: to inspire a cultural shift toward sustainability and circularity. By engaging students, teachers, policymakers, and communities, the project builds a foundation for long-term change. Together, these efforts aim to create a Europe that values innovation, collaboration, and responsibility in addressing global challenges.

In essence, the CircularCityChallenge is a call to action. It reminds us that education is not just about preparing for the future—it is about shaping it. By investing in young people and equipping them with the tools to lead, the project lays the groundwork for a sustainable, equitable, and circular Europe.

5. WORK PERFORMED AND MAIN RESULTS ACHIEVED

Work Performed

The project began with an in-depth exploration of successful methods and principles in sustainability and circularity education. By engaging a diverse network of stakeholders across EU—teachers, students, university mentors, educational experts, policymakers, and sustainability advocates—the team gathered valuable insights through interviews, focus groups, and workshops. These efforts culminated in the identification of **10 key findings**, which became the foundation for overcoming challenges and enhancing sustainability education in schools:

1. **High-School Guidance Can Be Enhanced Through University Student Tutorship:** University students expressed strong motivation for tutoring high-school pupils. Leveraging this resource can significantly enhance the educational journey of high school students by providing guidance and mentorship.
2. **Engaging Real-Life Experts Inspires and Motivates Youth;** Connecting students with approachable experts in sustainability boosts motivation and fosters practical leadership. Students also benefit from seeing their ideas implemented, which builds confidence and engagement.
3. **Integrating Sustainability Topics into Existing Curricula Ensures Inclusivity.** By embedding sustainability into standard school subjects, students from all backgrounds gain equal access to learning without relying on extracurricular participation.
4. **Teachers' Capacity Challenges Can Be Addressed Through Regular Support,** Teachers often face challenges when integrating new topics. Providing personnel support and fostering interdisciplinary cooperation helps address these concerns.
5. **Breaking Down Complex Topics Makes Sustainability More Relatable:** Tackling local, practical issues makes sustainability concepts tangible and engaging for students. Linking global challenges to their personal experiences makes the learning process meaningful.
6. **Bridging Teachers' Knowledge Gaps Is Crucial for Effective Education:** Sustainability starts with educators. Teacher training should include foundational knowledge about sustainability and circularity to ensure they can effectively guide students.
7. **Project-Based Methodologies Need Better Integration:** While interest in project-based learning is growing, schools need support in implementing it more widely. This hands-on approach is crucial for teaching sustainability effectively.
8. **Cross-Subject Collaboration Enhances Learning:** Interdisciplinary teaching is vital for sustainability education but is often limited by school structures. Encouraging collaboration between teachers of different subjects creates a richer learning experience.
9. **Tailored Approaches Are Essential for Addressing Regional Disparities:** Educational strategies must adapt to the unique needs of rural and urban schools to ensure inclusivity and relevance.
10. **Media Literacy and Anxiety Management Should Be Core Components:** Addressing climate-related fears requires equipping students with tools to manage anxiety while focusing on their ability to make a positive impact.

These findings informed every aspect of the project's next steps, including the design of its signature teaching method.

Main Result Achieved: CircularCityChallenge Teaching Method

At the core of the project is a six-step teaching framework designed to make sustainability education accessible, practical, and actionable for students and teachers alike. This method combines theoretical learning with hands-on application:

Step 1. Understanding Principles of Circularity and Sustainability: Students are introduced to the foundational concepts of sustainability and circular economies.

Step 2. Identifying Circularity Issues in the Local Community: Learners explore real-world challenges within their immediate surroundings.

Step 3. Mapping Stakeholders and Their Relationships Students: engage with local decision-makers, enhancing their understanding of interconnected systems.

Step 4. Redesigning Issues Using Circularity Principles: Creativity is encouraged as students reimagine local problems through the lens of circularity.

Step 5. Creating Action Plans: Students develop detailed strategies for addressing the issues they've identified.

Step 6. Sharing Action Plans: Presenting their solutions fosters communication skills and connects students with their communities.

Solutions to Challenges and Questions

The CircularCityChallenge successfully tackled the obstacles identified at the outset:

- **Bridging Knowledge Gaps:** By providing guidebooks for teachers and students, as well as a library of educational resources, the project ensured that both educators and learners had the tools they needed to succeed.
- **Encouraging Interdisciplinary Collaboration:** The project promoted cross-subject teaching strategies that break down silos between traditional disciplines.
- **Making Learning Relatable:** Real-life examples and local challenges connected global sustainability issues to students' daily lives.
- **Empowering Teachers:** Regular support, training, and resources helped educators feel confident in teaching sustainability topics. The workshops with teachers and the evaluation interviews demonstrated that educators could implement this method smoothly and effectively, even without prior knowledge of circularity and sustainability.
- **Addressing Climate Anxiety:** Understanding the personal agency and resources were built into the curriculum, helping students navigate complex and sometimes overwhelming issues.

The CircularCityChallenge achieved success in reimagining sustainability education. Its innovative teaching method provides a roadmap for empowering young people to understand and actively address the pressing environmental and social challenges of our time. With its accessible resources and practical approach, the project has created lasting tools that can continue to inspire educators and students across Europe.

6. PROGRESS BEYOND THE STATE OF THE ART AND EXPECTED POTENTIAL IMPACT

The CircularCityChallenge (CCC) project represents a significant step forward in advancing sustainability education. By combining practical methods with innovative teaching tools, the project has gone beyond

traditional approaches, making sustainability accessible and actionable for young learners. Its impact on students, educators, and the broader community showcases its potential to inspire lasting change.

Progress Beyond the State of the Art

The CCC method is an innovative teaching framework that bridges the gap between theoretical knowledge and practical application. One of the most remarkable aspects of the method is its ability to empower students—many of whom had no prior experience with sustainability—to recognize key issues, identify relevant stakeholders, and create actionable solutions. This progress is transformative, offering several advancements beyond the state of the art:

1. **Practical and Actionable Learning:** Unlike conventional educational methods, the CCC framework equips students with hands-on skills to address sustainability challenges. Through workshops, participants not only learn to analyze problems but also develop action plans that detail responsibilities and integrate solutions grounded in circularity principles.
2. **Student-Centric Approach:** The method fosters a sense of responsibility and purpose among students. It helps them understand their roles within a larger system, demonstrating how individual actions can contribute to systemic change. Students develop a meta-perspective on sustainability, allowing them to appreciate the web of interdependencies in sustainable development.
3. **Cross-Subject Applicability and Flexibility:** The CCC method's flexibility makes it suitable for various educational formats. It integrates seamlessly across subjects, enhancing students' understanding through interdisciplinary collaboration. Additionally, the method can be adapted for use in community workshops and participative processes, broadening its application beyond schools.
4. **Minimal Training Requirements:** Teachers and facilitators with no prior background in sustainability can implement the method effectively. This eliminates a major barrier to adoption, ensuring that the method can be widely used without requiring significant investments in additional training.

To complement the teaching framework, the CCC project created a library of best-case examples. This resource provides in-depth case studies and teaching tools to deepen understanding and inspire students with real-world applications of circular economy principles. Together, the method and its supporting materials represent a leap forward in sustainability education.

Impact of the Project

The CCC project has already delivered measurable and meaningful impacts in several areas:

1. **Increased Awareness of Sustainability and Circularity:** Students gained a deeper understanding of sustainability challenges, particularly the depletion of natural resources and unsustainable practices. Through their projects, they applied key circularity principles such as recycling, reusing, and supporting local businesses. These hands-on activities helped students see the connection between their actions and global environmental issues.
2. **Enhanced Understanding of Stakeholder Collaboration:** One of the most impactful outcomes was the students' ability to analyze stakeholder perspectives and develop collaborative solutions. By identifying sectors, mapping stakeholders, and addressing their needs in action plans, students demonstrated a sophisticated grasp of how to leverage resources and relationships to drive positive change.

3. **Strengthened Sense of Purpose and Values:** The students' projects revealed a strong sense of personal agency. By mapping their "zones of influence," they recognized their ability to impact sustainability challenges directly. This newfound confidence empowered them to take ownership of their roles within their communities.
4. **Educational Innovation:** The CCC method provides a structured yet adaptable framework that fosters creativity, systems thinking, and real-world problem-solving. Its emphasis on local issues ensures that students remain engaged while gaining valuable skills.

Expected (Future) Impact

The CCC project's potential extends far beyond the classroom. Its innovative approach to education can inspire widespread adoption and long-term impact:

Transforming Education Systems: By integrating sustainability education into standard curricula, the CCC method has the potential to reshape how schools approach teaching. Its success could inspire policymakers and educators to adopt similar frameworks, ensuring that sustainability becomes a core component of education across Europe.

Empowering Communities: The CCC method's adaptability makes it suitable for community workshops, participative policymaking, and citizen engagement processes. By equipping individuals with stakeholder mapping and analysis skills, the method can foster collaboration between citizens and decision-makers, driving grassroots change.

Building a Culture of Sustainability: The project encourages a generational shift in values, embedding sustainability into the mindset of future leaders. By inspiring young people to think critically and act responsibly, the CCC method helps cultivate a culture of circularity that will influence industries, governments, and communities.

Fostering Innovation and Collaboration: The CCC library of best-case examples offers a treasure trove of ideas for tackling sustainability challenges. It serves as a resource for educators, students, and professionals alike, sparking new collaborations and innovative solutions.

In conclusion, the CircularCityChallenge has achieved progress in sustainability education, exceeding conventional practices and inspiring impactful change. With its focus on practical learning, collaboration, and accessibility, the project has laid the groundwork for a more sustainable, inclusive, and empowered future.

7. OUTLOOK

The CircularCityChallenge (CCC) has created a solid foundation for integrating sustainability and circularity education into high school curricula. However, its broader implementation and future impact depend on continued efforts and strategic advancements. The outlook is promising, with plans for further promotion, refinement, and expansion of the program.

Outlook

Looking ahead, the CircularCityChallenge aims to make its innovative educational framework widely accessible and impactful. To achieve this, the project focuses on promoting the program and its roadmaps to key decision-makers:

- **Ministries of Education** are encouraged to include sustainability education as an essential component of national curricula.
- **National Curriculum Development Agencies** are targeted for integrating sustainability principles into educational materials.
- **Local Education Authorities** are advised to adapt and apply the CCC program to meet the specific needs of their communities.
- **School Administrators and Principals** are invited to support and motivate teachers in delivering sustainability education effectively.

Furthermore, the CCC team plans to sustain its **Call Centre**—an accessible support system for curriculum implementation assistance. Available on the project’s website, this platform serves as a valuable resource for educators and stakeholders seeking guidance on adopting the CCC method.

Unanswered Questions and Areas for Further Exploration

While the CircularCityChallenge has made significant progress, several key questions have emerged that require further attention:

- **Systemic Implementation of New Curricula:** One of the main challenges lies in embedding sustainability education into national systems. The reliance on progressive, enthusiastic teachers alone is insufficient to drive widespread change. A systematic and strategic approach is necessary to ensure curriculum transformation on a larger scale.
- **Focus on Social Contributions and Community Connections:** Future efforts should prioritize linking education with social and community contributions. While the CCC project addressed important sustainability principles, there is a need to expand the curriculum to include deeper connections to communities and their roles in creating a sustainable future.
- **Stakeholder Engagement Strategies:** How can the involvement of stakeholders—such as local governments, businesses, and NGOs—be further enhanced to maximize the reach and impact of sustainability education?

Addressing these questions is critical to ensuring the long-term success of the CCC program.

Potential Follow-Up Projects

The CircularCityChallenge team is already envisioning follow-up initiatives that build on the project's success:

- **Empowering Young People for Participative Planning and Policymaking:** Future proposals will focus on educating students to engage actively in participative planning processes, enabling them to contribute meaningfully to their communities and beyond.
- **Adapting the CCC Method for Participative Planning:** Expanding the CCC method to participatory urban planning processes could create opportunities for young people and other community members to collaborate on real-world solutions with policymakers and stakeholders.
- **Expanding the Call Centre's Role:** The continued development of the Call Centre will ensure long-term support for schools and educators. This resource will facilitate the seamless integration of the CCC curriculum, providing access to expertise and guidance tailored to local needs.

In summary, the CircularCityChallenge has laid the groundwork for transformative sustainability education, but its journey is far from over. By addressing unanswered questions, pursuing follow-up projects, and promoting systemic changes, the CCC project holds the potential to shape the educational landscape and empower the next generation to lead the way toward a sustainable and circular future.