PROJECT GUIDEBOOK FOR FACILITATORS

Creating a Next Generation Participatory Contest for Young People to integrate Circularity in School Curricula



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Step 1: Circular economy in a nutshell

Dear parents, teachers, and mediators who want to facilitate the #CircularCityChallenge with teenagers,

The #CircularCityChallenge offers teenagers significant imbalances between the skills aged 14 to 18 the chance to have a voice in important decisions for the future of their communities. This challenge allows younger generations to contribute to society's transition towards a circular way of living. We hope to inspire participants to identify problems related to climate change and social inequality and propose sustainable solutions through a projectbased approach that adopts circular thinking.

from implementing the Paris Agreement on climate change and shift to a greener economy goal by 2030. 24 million jobs will be created, and 6 million will be lost in this transition. 1.2 billion jobs globally depend on a stable and healthy environment. Currently, there are

offered and the skills needed for this green transition. CircularCityChallenge curricula will give teenagers a view of career opportunities in the green jobs industry and make them more attractive candidates to enroll in related universities and the green jobs industry.

Circular thinking is a novel approach increasingly applied in European cities such as Amsterdam and Barcelona to mitigate issues caused Furthermore, 18 million more jobs will result by atmospheric warming, environmental degradation, and ecosystem collapse resulting from unsustainable production and consumption of goods, food, and energy. Circular cities involve experimenting with circular actions, including looping, regeneration, adaptation, localization, substitution, and sharing:

LOOPING: It involves 9R-actions, such as recycle, reuse, recover, reduce, repair, refurbish, remanufacture, repurpose, and refuse of existing products and materials.

REGENERATION: It aims to preserve natural capital and restore the urban ecosystem, which entails implementing permeable surfaces, green roofs, urban farms, and gardens.

ADAPTATION: It aims to plan and design cities in a way that allows for the renewal and adaptation of existing infrastructure with minimal waste of urban resources.

LOCALIZATION: It is concerned with developing local symbiotic capital, promoting collaboration, and encouraging

pro-environmental behavior.

SUBSTITUTION: It involves replacing physical resources with virtual ones, nondurable with durable, and non-renewable with renewable resources.

SHARING: It aims to promote waste reduction, co-existence, and public interest in mobility infrastructure through systems like co-housing, co-working, and vehicle sharing, as well as promoting public transportation. This approach also considers space, time, and skill waste reduction, not just material waste.

The learning approach and learning outcomes

The **#CircularCityChallenge** is about integrating circularity into curricula at the secondary school level.

The #CircularCityChallenge uses a participatory develop transversal twenty-first-century skills that contest to connect students across communities. will benefit them across secondary education and beyond. There are many resources on the project nations, languages, and demographic groups and get them thinking. Our aim is not to find platform to help students, teachers, and facilitators understand the concepts of circularity. We strongly solutions but to get young people thinking, communicating, and planning about how they encourage everyone to read, listen, watch, and can make a meaningful contribution in their daily use those resources. Circularity is a social and lives to the fight against climate change and economic principle that aims to reduce and environmental degradation. Thinking and acting eventually eliminate waste in all production and about circularity in the ways on the opposite page consumption processes. Circularity is a means is an important way into this very complex and towards living and producing in a sustainable way sometimes anxiety-provoking problem. We want that recognizes the finite and delicate nature of our young people to come out of this contest with a environment. Circularity is also a goal, something greater sense of agency and empowerment as to work towards, not necessarily an endpoint that well as an understanding of these complex and we need to focus exclusively on. All actions that often contentious topics. We also want to ensure reduce waste are steps in the right direction. that by participating in the contest, students

What are the Intended Learning Outcomes of this Challenge?

We have chosen Intended Learning Outcomes (ILOs) based on several sources, including the "Green Competencies" developed by the Joint Research Centre of the European Commission. Upon completing participation in the contest, the participant will:

- Gain a basic understanding of circularity and the circular economy within complex urban production and consumption systems.
- Be empowered with systemic and critical thinking, and encourage them to reflect on how to assess information better and challenge un-sustainability
- Develop competencies related to project management, teamwork and communication, digital information and data literacy, problem-solving, and social responsibility.



	CircularCityChallenge contest LEARNING OUTCOMES	KNOWLEDGE COMPETENCES	ATTITUDINAL COMPETENCES based on shared values	APTITUDINAL COMPETENCES skills	
Step #1	understanding urban circularity and seeing opportunities for circularity	finding out about the CIRCLE and understanding that circularity is sustainability WE KNOW: the circle saves natural resources	challenging UN-sustainability and seeing WASTE as a valuable RESOURCE WE VALUE: waste a potential resource	looking around for very concrete and problematic situations of too much linearity WE DO: actively search for issues in my city	we situ nei cor mu
Step #2	in our city where various stakeholders have a role	finding out about circularity requiring collaborations among various stakeholders - mobilisation of multiple actors to correlate activities, behaviours, etc. WE KNOW: circularity is only possible when there are connections among actors to keep resources in their loops	 recognizing that there are many stakeholders even if less visible at first, and that paying attention to the relationships among them is essential to understand the context of the issue we want to address WE VALUE: the contributions to circularity could come from each and every one of us in the community 	mapping beyond the obvious players with stakeholder analysis methods WE DO: actively identify the stakeholders arpund the selected issue / problematic situation - listing them, reaching them for interviews	we ana sho sta situ
Step #3	establishing objectives through cooperation	finding out about defining relevant objectives in strong connection to a shared (agreed upon) assessment of the existing situation WE KNOW: change happens when there is agreement on the set destination and the reasons for choosing that destination are clear to all who are expected to contribute to the change	accepting that change only occurs when stakeholders are convinced about the need and the opportunity for change WE VALUE: aligning visions into a common perspective that results from collaboration, from thinking together about the present and the future	 defining relevant objectives in strong connection to a shared (agreed upon) assessment of the existing situation WE DO: actively engaging ourselves and the stakeholders in conversations to get a problem-tree turning into an objective-tree (cause and effect relationships) + SWOT analysis and then focusing on establishing directions for change 	we for col
Step #4	and finding ways to reach those objectives	 finding out about project management principles and about design thinking approach - the basic theory behind a good action plan WE KNOW: there is a logical approach: in order to reach objectives, we need to find the right actions leading to results - this is called planning and Theory of Change frame can help 	aiming at being EFFECTIVE as much impact as possible in short time with limited financial and human resources WE VALUE: creativity seen as innovation with what we have at hand	 practicing design thinking going from divergent thinking to convergent thinking and reiterating it until we have a solid plan in design thinking approach participation of stakeholders is embedded WE DO: we plan the actions (verbs) being very precise about the roles (who?) and describing results and a time-frame (duration for each action and the links between them) 	we rew tog
Step #5	then be convincing to anyone about your analysis and proposals	finding out about the tips and tricks of communicating complex messages WE KNOW: the role of emotions - and the importance of story telling the importance of choosing the right instrument for a specific content to be communicating	creating a work environment which is CONSENSUS ORIENTED and that allows room for all to contribute and be credited for that contribution WE VALUE: team work brings quality to the process that, in turn, brings quality to results	preparing presentation materials WE DO: DEMONSTRATION SCENARIO FOR CAMPAIGN / PROPTYPE ACTION IMPLEMENTED report and illustrate report "impact" what you did! in 10 years from now	we jou

SHOW PROGRESS in the submission materials

e can demonstrate that we found several tuations in our community (school community, eighbourhood community, the entire city ommunity...) which are problematic in terms of too uch linearity - too much waste

e can visualise the results of our stakeholder nalysis through tables and diagramms that now the roles and the connections among the akeholders of the selected issue/problematic tuation

e can bring arguments for the chosen directions r change and we can demonstrate that there was ollaboration in establishing those objectives

e can explain our action plan through which we write the rules of the game that we shall play gether

e put together and submitted both the process urnal and the intervention

HOW TO USE THE FACILITATOR GUIDEBOOK

This facilitator guidebook is an indispensable tool for teachers and facilitators who want to help their students develop critical, systemic, interdisciplinary, creative, and design thinking skills for the #CircularCityChallenge. The guidebook provides color-coded steps that follow the same order as the participant logbook; more information of which is available below and on the next page. You can guide your students through the entire project development process by following these steps, marked by a different color.

To simplify your job, you'll find QR codes at the bottom right of each page, leading to more information, inspiring examples, and tools. Whether working alone or collaborating with other teachers and facilitators, this guidebook will provide the information and guidance you need to help your students.





HOW TO PREPARE THE LOGBOOK FOR PARTICIPANTS

The participant logbook is an essential tool for keeping track of the progress of your students in the competition. It can be downloaded from the competition website in PDF format. In order to reduce paper usage, we highly recommend encouraging students with access to laptops and tablets to use the digital version of the logbook. While this may not be possible for all participants, you can find a printing guide by scanning the QR code at the bottom of the page.

We understand the importance of reducing waste, which is why we suggest using leftover paper from accidental prints to create logbooks for students. This not only helps to minimize waste but also promotes a culture of sustainability aligning with the aim of the #CircularCityChallenge. By repurposing paper that would otherwise be thrown away, we can give it a second life and conserve resources.

In addition to the above, the participant logbook serves as valuable guidance for students throughout the competition. It allows them to keep track of their progress, reflect on their learning, and organize their thoughts. Using the logbook, students can better track their ideas and make informed decisions about improving them. Overall, the participant logbook is an important tool for promoting student success and engagement in the competition.





We strongly suggest that you, as a facilitator, encourage students to use the logbook throughout the submission process. The logbook is designed to assist students in working on their projects. It is divided into five sections for each step, which are marked with different colors on the left and right edges, as shown in the image below:

- **1. Reminders:** Before starting the step, the logbook provides reminders to ensure students are well-prepared. It is advised that you go over these checkpoints, which you will also find in your guidebook for each step, with the team members.
- 2. Tasks and Questions: This section contains tasks and related questions. It is advised that you provide space for each team member to ask guestions about the task. You will find more information for each task in your guidebook within the pages related to each step.
- 3. Inspirational Material: The QR code provides access to further knowledge. It is advised you encourage students to explore additional information through the link provided in each step via the QR codes. You will also find QR codes at the bottom of the pages of your guidebook to help you address students' potential questions.



- 4. Blank Space: This space is for notes and sketches. It is advised that you encourage students to create mind maps, sketches, and notes for each step on the blank spaces provided for each task. There are also more blank pages at the end of the logbook if needed.
- **Reminders:** After completing the 5. step, the logbook provides reminders to ensure students have finished it completely. Again, it is advised that you go over these checkpoints, which you will also find in your guidebook for each step, with the team members.

Step 2: Help your students identify the circular challenge in their surroundings

Preparations for the STEP #2

Help students form a team by either giving them **Provide** markers, post-its, and other materials the initiative to choose their own teammates or grouping them based on their interests. For inspirational examples, scan the QR code on the next page.

for the team to use during their critical thinking process, and take a look at suggestions on the next page on how to support your students in critical thinking and teamwork.

TASK: IDENTIFY THE CHALLENGE

To support your students in this step, you can:

Remind them to stay focused on the task and to think deeply about the problem they will be trying to solve. Encourage them to ask guestions in addition to the given task guestion, such as:

- What is the impact of this waste on the environment and human health? •
- What are the underlying causes of this waste production? ۲

Encourage them to document their progress and thoughts throughout the step. You can introduce mind-maps, a visual tool used to organize ideas that can be used for brainstorming, note-taking, and organizing complex information. To make a mind map, follow these steps:

- Start with a central idea or topic and draw a circle around it. •
- Draw branches radiating out from the center circle, each representing a subtopic or related idea. •
- Continue to add more branches and subtopics, using colors and images to help organize and clarify your thoughts.

Check in with the students to ensure that they followed the given instructions for the task.

(Optional) Encourage students to present their identified challenges in an elevator pitch, which is a brief, persuasive speech used to spark interest in others about their idea. It should be short enough to be delivered in the time span of an elevator ride, typically 30 seconds to 2 minutes. The goal is to get the listener interested in learning more about the idea. It should be clear, concise, and easy to understand.

Supporting students in critical Thinking and Teamwork

Encourage collaboration: Emphasize the **Encourage team building:** At the beginning of the project, allow time for students to get to know importance of collaboration and communication each other and establish a team dynamic. You within the team. Encourage students to share can facilitate team-building exercises, such as their ideas and listen actively to their teammates' icebreakers, trust-building activities, or games ideas. Teach them how to give and receive that require cooperation and communication. feedback constructively.

Establish clear expectations: Clearly Provide guidance and support: As the project communicate the goals of the project, the roles progresses, be available to answer questions and responsibilities of each team member, and provide guidance. Monitor each team's and the criteria for participation and success. progress and offer feedback to help them stay It is important to encourage students to on track and meet their goals. share their motivation for participating in the #CircularCityChallenge. Also, encourage them **Encourage reflection:** At the end of each step to ask guestions and seek clarification to ensure of their project, encourage students to reflect on their experience. Ask them to evaluate their they understand the expectations.

Foster critical thinking: Provide opportunities they learned. Use this feedback to improve their for students to analyze and evaluate information, develop hypotheses, and make evidencebased arguments. Encourage students to ask questions and consider multiple perspectives when making decisions.

own contributions to the team and identify what experience not only in future steps and also in future projects.



Step 3: Assist your students in mapping the stakeholders around their challenge

Preparations for the STEP #3

Encourage students to reflect on their Provide visuals or encourage them to search experience. Ask them to evaluate their own contributions to the team and identify what they learned. This will help you track their motivation and identify challenges where you can provide further support.

for visuals of actor/stakeholder or system mapping, and take a look at suggestions on the next page on how to support your students in system thinking and actor mapping.

TASK: FIND YOUR IMPACT

To support your students in this step, you can encourage them to think out of the box:

- Challenge them to think broadly and creatively. Some obvious actors might include the students themselves, local businesses, non-profit organizations, decision-makers, and citizens. But many more individuals or groups could be involved in the system than just these obvious actors. Encourage students to think about who might be affected by the waste, who might be contributing to it, and who might have a role to play in reducing it.
- Encourage them to categorize defined actors based on the power and information they hold in taking action and their relationship to their defined challenge and to identify connections and relationships between these groups. By doing so, students can start to get a more complete picture of the system and understand how different players are connected and interdependent.
- Discuss together any key insights that have emerged and encourage your students to reflect on what they have learned.

Check in with the students to ensure that they followed the given instructions for the task.

(Optional) Encourage students to present their system mapping as a poster and create an exhibition for their peers, teachers, and managers. This will raise awareness about the systems around us, which are at the core of sustainability issues.

Supporting students in system thinking & actor mapping

System thinking is a powerful skill that can help students understand how different parts of a system interact with each other and how they **RESOURCES & INFORMATION:** Encourage them can work together for meaningful environmental to identify each actor's and group's resources and action. This skill will help students to become better information that might be relevant to their defined problem solvers, critical thinkers, and decisionchallenge. makers. Mapping out systems can help your students identify opportunities for change. When POLICIES & INCENTIVE STRUCTURES: Encourage visualizing systems related to the circular economy, them to rank the defined actors based on the common elements include actors, activities and power they hold for taking action to solve the events, resources and information, policies and challenge. Challenge them to think from a bottomincentive structures, and the relationships between up approach, giving credit to citizens for holding the them. All elements need to be viewed in the context power of action. of the whole city.

RELATIONSHIPS: Guide your students to draw lines with arrows connecting the stakeholders. They **ACTORS:** Ask your students to identify the actors involved with or impacted by their defined should describe the relationships between them. challenge. This includes individuals, groups, Encourage your students to cluster, circle, and organizations, and any other relevant entities. Have label related groupings. They can also draw arrows students come together as a team and look at all between the clusters to describe relationships the people they've identified so far. Are there any between groups. Encourage your students to overlaps? Did they miss anyone? Make sure they identify any emerging themes. Who stands out? document all stakeholders. What relationships stand out?

ACTIVITIES & EVENTS: Challenge them to identify initiatives that provide platforms, such as public forums, citizen councils, and elections, for the



defined actors to interact with each other.



STEP #4: Facilitate envisioning circular futures

Preparations for the STEP #4

Encourage students to reflect on their experience. Ask them to evaluate their own contributions to the team and identify what they learned. This will help you track their motivation and identify challenges where you can provide further support.

Introduce the concept of the pluriform society to your students and take a look at suggestions on the next page on how to support your students in pluralistic thinking and networking.

TASK: ENVISION CIRCULAR FUTURES TOGETHER

To support your students in this step, you can:

- **Facilitate** group discussions where students can share their ideas and receive feedback from their peers. This will not only help them refine their ideas but also develop their pluralistic thinking and communication skills.
- **Encourage** students to conduct research on the societal, environmental, economic, and ecological dimensions of sustainable development. This will help them better understand the complex issues they are addressing.
- Invite community leaders or representatives from local organizations to speak to your students about their work in sustainable or circular development. This will give students the opportunity to learn from experts and ask questions about real-world challenges and solutions.
- **Encourage** students to reflect on their experiences and the feedback they received from key actors. Ask them to think critically about how they can use this feedback to refine their ideas and overcome any potential challenges or obstacles.

Check in with the students to ensure that they followed the given instructions for the task.

(Optional) **Organize** a networking event and invite local individuals, such as people from the neighborhood, the school headmaster, the local municipality, local entrepreneurs, influencers, and community leaders interested in a circular approach. This event can help your students enhance their networking skills and provide additional opportunities to receive feedback on their ideas.

Supporting students in pluralistic thinking & networking

The pluralistic approach allows learners to understand different perspectives, views, and values from the individual, community, and non-human levels and enables them to acquire pluralistic thinking and networking skills. The pluriform society is built on the pluralistic approach and potentially explains the interconnectedness of systems in cities. This approach furthers the concepts of active citizenship and inclusive pluralism, which require democratic exchanges of ideas, evaluation of various perspectives, and deliberative communication to establish collective values and norms.

Explain to your students that sustainable development requires a comprehensive understanding of complex systems (societal, environmental, economic, and ecological) that operate at different levels, from individual to community and non-human. **Introduce** the skills needed for networking, such as communicating effectively, both verbally and in writing, strong interpersonal skills, having confidence in oneself, and finding creative ways to connect with people and stand out from the crowd.

Encourage students to explore different perspectives, views, and values to acquire pluralistic thinking skills. This can be done by challenging them to approach key actors they defined in their impact area to receive feedback on their idea. **Remind** your students that lack of collaboration between actors or disciplines weakens the distribution of benefits and results in broken or separate insight acquisition from one subject or discipline perspective.

Encourage your students to engage in arguments, collaborate with others, and explore their contributions.





STEP #5: Support your students in designing their circular idea

Preparations for the STEP #5

Encourage students to reflect on their Introduce different presentation tools and styles experience. Ask them to evaluate their own contributions to the team and identify what they learned. This will help you track their motivation and identify challenges where you can provide further support.

and take a look at suggestions on the next page on how to support your students in creative thinking.

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TASK: DEVELOP YOUR INTERVENTION

To support your students in this step, you can:

- Encourage students to brainstorm their ideas. Once students have generated a range of ideas, they can choose one circular idea that they are passionate about and that aligns with the task requirements. The idea should be feasible or something that they can realistically achieve to either demonstrate or create a scenario.
- **Encourage** students to sketch their idea in detail. After selecting their idea, students can sketch it in more detail, mapping out the key steps, stakeholders, and outcomes. You can provide feedback and guidance on refining their idea, making it more impactful, and considering the potential consequences.
- Guide students to choose a presentation style. You can encourage students to think • creatively and choose a style that suits their idea.
- Encourage students to reflect on the outcome. You can guide students to evaluate how they • used the circular action(s), the response of the different parts of the system, the impact of their solution, and identify what needs to happen to create the most positive impact possible.

Check in with the students to ensure that they followed the given instructions for the task.

(Optional) Encourage students to present their circular idea in an elevator pitch, which is a brief, persuasive speech used to spark interest in others about their idea. It should be short enough to be delivered in the time span of an elevator ride, typically 30 seconds to 2 minutes. It should be clear, concise, and easy to understand.

Supporting students in creative thinking

Assist students to develop and present their intervention. Interventions can be either:

changing a product cycle, organizing event and many more possibilities.

or

 A Plan (proposal for action): For instance, designing a physical product (prototype mockup), many more options.

Plan-based presentation is a method of Encourage curiosity questioning: and presenting a proposed solution as a concrete Encourage students to ask questions, plan of action. This presentation format is challenge assumptions, and seek new commonly used in project management, information-prompt students to think business, and policy-making contexts. A critically by asking open-ended questions plan-based presentation aims to convince and encouraging them to explore diverse the audience that the proposed solution is perspectives. practical, feasible, and effective.

Create a conducive environment for creative thinking: Create an environment that fosters creative thinking by encouraging students to explore new ideas, experiment, and take risks without fear of judgment. They can do this by praising effort rather than just results, allowing for open dialogue, and celebrating diverse perspectives.

Introduce creative thinking techniques: such as brainstorming, mind mapping, visualization, and role-playing, to help students generate and explore new ideas. Using these techniques, students can learn to approach problems from different angles and discover new solutions.

• An Action (real-world project): For instance, performing a campaign, programming an app,

sketching an alternative production process, planning a political measure, formulating a law, and

Foster collaboration and experimentation: Collaboration and experimentation are key elements of creative thinking.



STEP #6: SUBMIT THE IDEA

Preparations for the STEP #6

Remind students to check the #CircularCityChallenge website for the requirements (information, document size, etc.) to submit their projects

(if needed, based on the questions from your students) Explain the assessment criteria explained on the next page before submitting their projects. The submission page can be accessed by scanning the QR code at the bottom right on the next page.

TASK: SHARE YOUR IDEA

To support your students in this step, you can:

- **Encourage** students to be proactive and communicate with each other about their roles in the submission process.
- Offer help to students if they experience a challenge during the submission process. •
- Remind students that previous steps can be repeated; engaging actors and internet research can be done whenever needed to adapt and refine their idea. It is normal to hit barriers and the need to adapt an idea.

Check in with the students to ensure that they followed the instructions, entered the correct information requested by the submission webpage, and uploaded the final product (Action or Plan) on the submission webpage.

Assessment criteria

- 1. UNDERSTANDING URBAN CIRCULARITY. How well does the team display a basic understanding consumption?
- 2. UNDERSTANDING INTER-CONNECTIVITY. How well does the team understand of general the relationships, roles and information flows in the system, identify opportunities to build new relationships, and explore other parts of the system?
- 3. SEEING OPPORTUNITIES FOR CIRCULARITY. How well does the team represent the problem in their environment and to address this problem, establish objectives through cooperation, and find ways to achieve those objectives via circular actions?
- 4. CONVINCING THE JURY ABOUT THEIR ANALYSIS AND PROPOSAL. How well does the team proposal for the problem they defined?

of circularity and the circular economy within complex urban systems of production and

landscape (key actors, organizations, initiatives), determine who needs to be involved, map

present their overall analysis, which includes the problem, actors, cooperation, and their final







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CircularCityChallenge



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