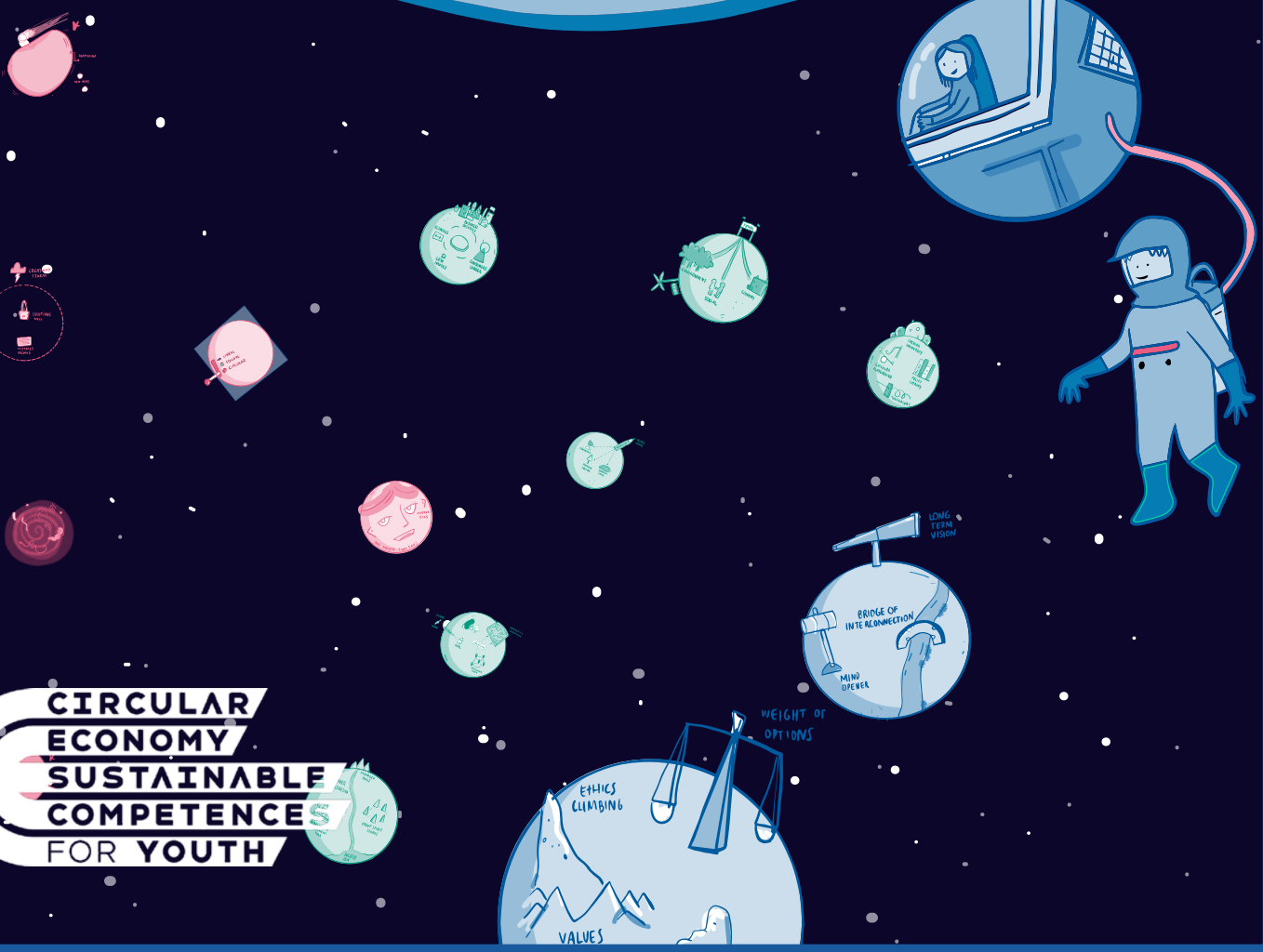
Manual for practitioners

Methods and Tools to use the CESCY Framework of Competences

Circular Economy Sustainable Competences for Youth



CIRCULAR ECONOMY SUSTAINABLE COMPETENCES FOR YOUTH

Manual for practitioners- Methods and Tools to use the **CESCY Framework of Competences - Circular Economy Sustainable Competences** for Youth is the fifth intellectual output of the Circular Economy - Sustainable Competences for Youth ("CESCY")

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1. Introduction

CESCY Tools and Methods

During the last years we have analysed circular economy and sustainability at work, in youth work and in society. Based on the learnings we have created a competences framework that supports young citizens taking an active role in the transition to circular societies.

The reasons why these competences are important and necessary are clear to see, experiments and research show how simple it is to harm our environment and as a consequence our society, as well as the consequences linear and circular decisions have in our daily life. We require to shift the status quo, the direction our ecosystem is heading, the perspectives, actions and path we follow for future and current generations on Earth.

This challenge has been also confirmed during our CESCY project. After easily identifying knowledge, skills, attitudes and values shared for all stakeholders and confirmed by youth, which can lead this transition to more circular and sustainable societies, it wasn't easy to find actions. There are organizations, foundations and projects. We have met with inspiring companies, entrepreneurs and grassroots associations. And they are still exceptions working on very specific needs, addressing small parts of a big puzzle, much bigger than them and all of us.

When analyzing what could be done, which ways we could better support this transition, we faced a bigger challenge. The only clear answer we had was the need of education and learning. And in fact: it is amazing, how many tools and approaches have meanwhile been developed specifically in the sphere non-formal learning providers to explore and initiate sustainable, circular and inspiring positive environmental practices with youth. This is an impressive proof for the competences and capacities of the field of non-formal education as such: to react fast to challenging issues and develop targeted approaches. The role that education plays in supporting democratic self-efficacy and critical thinking goes far beyond circular economy concepts as it relates to approaches deeply rooted in environmental human rights.

Youth Work has the power, competence and approaches to work out and make the difference. With the last toolkit section we want to dive directly into ways to work on the global environmental problems in today's societies through circular economy, sustainability and the set of core, technical and innov-action CESCY competences.

The following tools and methods share an approach based on non-formal education. They complement the research, country reports, policy recommendations, framework of competences and all materials previously shared through the project. They are diverse examples of ways to involve participants as a group and as individuals so they gain competences that will support them become more prepared citizens.

Some of the activities are specific workshops, others are part of longer processes. Some of them are good for people new to the topic, while others work better with those with previous experience. All of them tackle a series of CESCY competences, having the first one a focus on the technical Circular Economy, Circular Business Models, Sustainability, Systems, Design and Participative project management, the second group on the Core Vision, Ethics, Motivation and Lateral Thinking and the final ones a selection of the Innov-action competences that we tackled the most during our project process. Different angles to explore this challenge, all of them complementary and with Circular Economy and Sustainability in the center.

Our aim is not that you take these activities as a ready-made meal for you to replicate, but that reading through you get inspiration and ideas. As a youth worker or educator, you will find activities that can be interesting for your target group, others that you could reframe, questions that you could use in your debriefings. Play with the concepts and create your own processes. As we already said, we are still discovering the best ways to navigate today's societies and we hope you find inspiration in the following pages

What is non-formal learning?

Unlike formal learning (which takes place in formal and structured environments like schools) and informal learning (i.e. spontaneous learning that takes place in everyday life), non-formal learning is a typology of educational intervention planned and devised by an educator, youth worker or trainer, who acts as a facilitator in a learning process. Non-formal learning is characterized by "learning by doing", as learners learn first and foremost from the concrete situations they experience. The learner and the facilitator develop knowledge and skills together in a horizontal relationship while tackling attitudes and values that shape their future behaviours and actions.

Some of the main features that distinguish non-formal learning are:

- Centrality of the participant, which is the point of departure and arrival of every activity;
- Voluntary participation, based on the free choice of the learner;
- Activities are process-oriented and not result-oriented;
- Global learning, which affects not only the cognitive aspects but also the emotional and relational ones;
- Learning develops in interaction between participants - who are guided by the facilitators in a "horizontal" relationship;
- Experiential learning is what characterizes the group work- emotions, ideas and results emerge out of experience, and encourage debate.

CESCY Training Principles

We can't propose non formal learning tools and methods for the circular economy without addressing sustainability, zero waste, empathy, the space and the group process.

The group

Following non formal learning principles, it is important to invest time and quality on the creation of the group. A good learning atmosphere is relaxed and non-judgmental and puts the participants at ease. It is important to create the right conditions so that everyone feels a protagonist, ready to make their own contribution.

The aim

A competence is only acquired when put into practice. Build learning experiences that allow participants to gain practical experience, experiment and re-read their own experience. Find ways to put their competences into practice and to contextualise their learning with their daily life.

The flexibility

If the participant is the centre of the educational / training intervention, it is necessary to know how to keep in mind their needs, expectations and time. It is important to reshape the activities without losing the previously set objectives.

The workshop

Group work happens better when we have enough space for it. Having an open space in a room or outdoors, where the complete group of participants can sit in a circle - seeing each other as well as the trainers, and there is no disturbance from noises and light, will help the methods implementation. Many activities include group work and interaction with the neighbourhood, having supportive spaces nearby for participants to go to will support their process.

The materials

Avoid waste from design. Have whiteboards instead of flipchart paper, recycle cardboard for making notes and big posters, be creative not to use post-its if you don't need to paste what you write in different venues. Use a beamer to share information, and previously share it with the group through a common chat group or online folder. Get into the culture of groups taking pictures of achieved outcomes and sharing them digitally. The amount of paper and waste at the end of the session will drop as you contribute to sustainability with your practice. The way of traveling to the venue, most sustainable, as well as the food during the training meals and breaks need also to be rethought. Cooking together, having days without meat and promoting local healthy food are ways to bring sustainability to the complete process.

The facilitator

You will be the person supporting youth in their learning process, being one single activity or a series of them part of a personal development path. Put your competences into practice designing activities connected to the needs and interests of your participants, providing space to experiment and processes to debrief and reflect. Be ready to listen to learning different to the one you were planning and to complement it with theories and inspiring examples.

What is experiential learning?

David Kolb, in 1984, developed experiential learning theory on two levels: a four-step cycle of learning and four separate learning styles who feel more comfortable learning in each of the four steps.

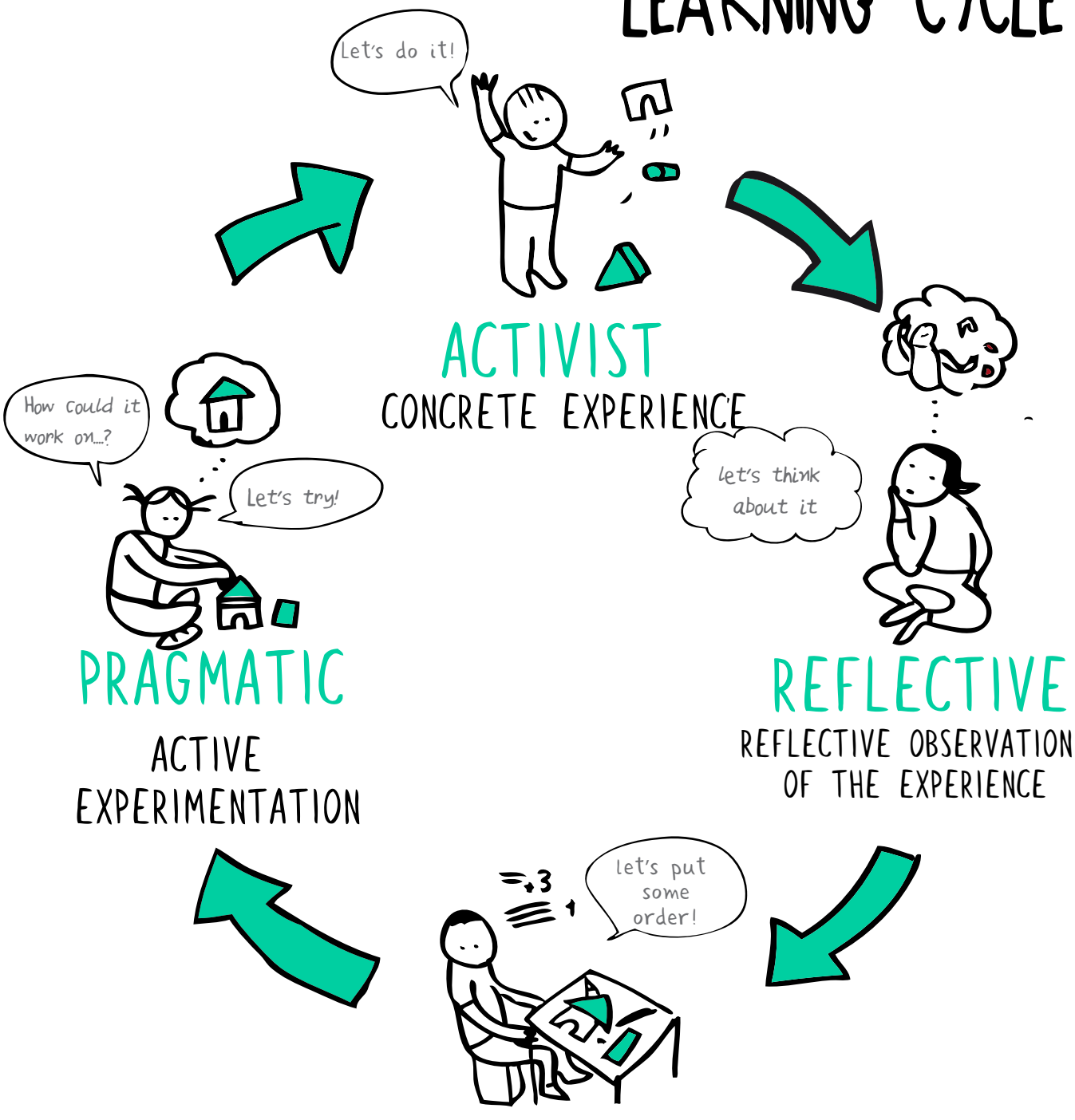
1. Concrete Experience: the learner encounters a concrete experience. This might be a new experience or situation, or a reinterpretation of existing experience in the light of new concepts. In training, this experience serves as a metaphor to ignite the learning process.

2. Reflective Observation of the Experience: the learner reflects on the new experience in the light of their existing knowledge. Of particular importance are any inconsistencies between experience and understanding. Debriefing of the training experience starts this process.

3. Abstract Conceptualization: reflection gives rise to a new idea, or a modification of an existing abstract concept: what has the person learned from their experience.

4. Active Experimentation: the newly created or modified concepts give rise to experimentation. The learner applies their idea(s) to the world around them to see what happens. Applying in their social or professional life their learning, the learner will create a new experience that opens a new learning cycle.

EXPERIENTIAL LEARNING CYCLE



An adaptation of HONEY & MUNFORD from D. KOLB

GRAPHICS RQ.

2. Methods and activities

N

Method Title

Here you will find an overview about the method.

Competences

- ▲ Main Competences addressed
- △ Secondary competences addressed

For how many people

How much time you need

Objectives

- ➔ Here you will find the objectives of this activity
- ➔ What are the main learning goals?

Type of activity

- ▶ And here all materials and resources you will need.

Step by step

1. Here you will find every step of the preparation, introduction and implementation.
2. With estimated time for each phase.
3. Just follow the steps!

How to read this manual?

Debriefing

➔ Debriefing is very important for us
➔ Here you will find questions that will help you connecting activities and learning outcomes

Evaluation

Here you will find some ideas how to close the activity with learning for the facilitator

Follow up ideas

➔ Here we give you some ideas to take an action!
➔ Ideas that can be done after this activity such as connect with another method, introduce some theory, go visit some venue, reflect on some elements of the process...

Tips for facilitators

You will find here some useful tips for facilitators and teachers (possible variations of the activity)

Handouts

You can find materials for the activity either here or as an attachment

Overview of Methods

▲ Main competence
△ Other competence

#	Method title	page	CORE: Ethics	CORE: Vision	CORE: Motivation	CORE: Lateral Thinking	TECHNICAL: C.U. Circular Economy	TECHNICAL: C.U. Business Models	TECHNICAL: C.U. Sustain-ability
1	Shaping CESCY Competences	14	△	△	△	△	△	△	△
2	Back to the future	16					▲		
3	Introduction to C.E	18					▲		
4	Circular Court	20					▲		
5	Putting C.E. into perspective	22					▲		
6	Make the R-principles our principles	24					▲		
7	Circular business model canvas	26						▲	
8	Business model interview	28	△					▲	
9	Circularity in everyday life	30		△	△				▲
10	Spoken Word Performance	32		△			△		▲
11	Spaceships	34					△		▲
12	Who am I talking to today?	36						△	
13	Experiencing Systems Thinking	38							
14	Design for Circularity	40				△	△		
15	Beware, we are watching	44	▲	△					△
16	Lights, camera, circular action!	46		▲					
17	Tutti Frutti Core	48		▲					
18	Food Motivation	50			▲			△	
19	A circular solution	52				▲		△	
20	Condominium	54			△		△		
21	Urupia	56							△
22	Yes, no, maybe?	58							△
23	(un)fold your communication	60							
24	Co-designing Policy	62					△		

INNOV-ACTION

Systems Thinking	Design Thinking	Participative Proj. Mng.	Adaptability & Flexibility	Problem Solving	Teamwork & Collaboration	Assertive & Empathic Comm.	Activating a Change	Working in Complexity
△	△	△	△	△	△	△	△	△
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1

Shaping CESCY Competences

This activity has been inspired by Jean-Philippe Restoueix coordinating a training for trainers on non-formal learning and youth work within the framework of the CoE - Youth department activities.

Throughout this activity, using the metaphor of a human silhouette, participants understand what is competence and identify the competences into actions (Knowledge, Skills, Values, Attitudes) a young person should have to be active in the circular economy and sustainability contexts.

Competences

△ All the competences

max. 30 people

120 minutes

Objectives

- ➔ Support participants understanding of what is a competence
- ➔ Facilitate participants identification of the main competences a young person should have to be active in the circular economy and sustainability context
- ➔ Introduce the CESCY framework of competences and the main areas of competences.

Working groups

- ▶ A4 Paper
- ▶ 2 Whiteboards
- ▶ Pens & Markers
- ▶ 1 slide with CESCY framework of competences page 90 or the planet version on page 111.

Step by step

1. (15') Brainstorming on "what is a competence". You may use a whiteboard to collect the main characteristics or use a tag cloud online with Menti.com or Slido.com
2. (15') After participants have brainstormed and have a common understanding of what's a competence, you may introduce the human silhouette where you will position the knowledge on the head, the values and attitudes on the heart, the skills on the hands and the actions as the movement.

You may use as an inspiration the page 89 as a model to draw your human silhouette.

3. (15') Once everyone has a clear understanding of the main components of a competence, as described in CESCY Competences Framework, you may ask them to create groups (5 persons each) where they should identify the specific knowledge, skills, value-attitudes and actions young people should have to act in a cir-

cular economy and sustainability context.

4. (15') When the groups are ready, you may ask them to report on a whiteboard reproducing the human silhouette, their findings. When all groups have reported on the whiteboard, you ask participants to have a look on the collective work
5. (15') After having observed the collective work, ask the different groups to explain what they have found out and if the common image represents their work
6. (15') After the round of table has finished, introduce the CESCY framework of competences and be ready for questions for clarification

Debriefing

After the activity is concluded you may ask participants:

- ➔ how they feel exploring, if they are satisfied about the activity and if they have a clear picture about what's a competence and how to describe it especially in relation to CESCY framework of competences
- ➔ how competent they feel in relation to Circular economy and sustainability
- ➔ how they can acquire the missing competences.

Evaluation

You may close the session, asking participants to quote the most inspiring moment. You may ask the same question online using Menti.com or Slido.com to create a tag cloud.

Follow up ideas

After the introduction of the CESCY competences framework you may:

- ➔ Invite them to read the dedicated chapters in the manual elaborated within CESCY project
- ➔ Invite them to explore more about themselves and use the self-assessment to identify which competences they have and which ones they would like to develop the most. You may find the self-assessment document in the manual for practitioners.

Tips for facilitators

Before introducing the activity, we suggest you read the chapter on competences and have a look at self-assessment. If you have time, it is worth reading the CESCY competences framework to understand the logic used while designing the competences model.

2

Back to the future

Participants take a moment to reflect on their personal lives with a challenge to point out clothing, accessories, items, etc. that they've had/are still using after a long time. They will then focus on the R-principles and see how those items they pointed out are connected and represent the specific principles.

Competences

- ▲ **Technical: Critical understanding of Circular Economy**
- △ **Innov-Action: Assertive and empathic communication**

16-32 people

120 minutes

Game/challenge

Objectives

- ➔ Understand the basic principles of CE and how to apply them to my life
- ➔ Grow our self-awareness and self-consciousness in relation to our everyday choices, and the outcome of the items we bring with us along the way.
- ➔ Experience different lifestyles, experiences and contexts without seeing it as an obstacle but rather as an opportunity for growth.

- ▶ Whiteboard and markers or beamer to keep track of the points and show them to the group.
- ▶ Each group can have their own whiteboard/ recycled paper to write down their points OR produce a document that they can share digitally.

Step by step

1. (5') Preparation. Facilitators prepare the room or space in which the activity will take place guaranteeing work in groups of 4 with enough space to interact without groups being too close. If they have whiteboards and markers they can put them in a spot where they are easy to reach so that participants are autonomous in choosing this option or going forward digitally.
2. (15') Start with a light energyzer as "1-duck-2-feet-QUACK!" for participants to enjoy failing together until they succeed. After the energizer explain that the activity will have 2 parts. Part 1 will be done in groups of 4, playing a game and coming back into plenary to discuss and compare how it was, Part 2 in same or new groups, participants will take a closer look at the R-principles of Circular Economy.

(20') Part 1, the game:

3. Ask participants about 2 garments, accessories, items, etc. they own that are very old, the year hey got it, and a keyword to describe it. Counting down from the current year - every year is +1 point. So, that mom's t-shirt from 1979 would be a total of 43 points if you are hosting this workshop in 2022.
4. Ask each player to write down on recycled cardboard or paper their name + their total of points + the word they connect to each item.
5. After making the list, ask players which items they wear that they bought new in 2022. Each one gives -10 points.

6. Go around, look at the cardboards and comment on each other's choices. What ties you to the item you chose? Why is it still with you? What resonates amongst your group in term of keeping an item? What about the item bought during this year? Do you think another choice could've been made? On the other hand, what do you think justifies buying this item? Try to use active listening and engage with the other participants on an empathic level about what drives our choices and the different situations we live in every day.
7. Order the scores together where they can be seen in preparation for part 2.

(40') Part 2, the Rs

8. Show and give a short definition of the R-principles to participant, you can find it on pages 92-93. As soon as all principles are understood participants can start making connections: to which R-principle is the item they chose connected? How?,Do the keywords you used connect with the R-principles? Are all R-principles easy to follow or are some easier/harder? Why?

Debriefing

- ➔ How did I feel during the teamwork activity?
- ➔ What made my participation functional and helpful?
- ➔ What can I do to feel satisfied as a group and as an individual of our work?
- ➔ How in-depth was my self-reflection during the activity?
- ➔ How did I engage with others during the game?

Evaluation

Evaluation can focus on learning and follow up. Ask participants if they remember how many R principles there are and if they could explain them to someone else. Get feedback from participants with a closing question: What are some key takeaways that you could share with family members or friends after this activity?

Follow up ideas

You can invite participants after this activity to:

- ➔ Play the game in another setting and get people involved in thinking about their relationship with things.
- ➔ Reflect on a specific R-principle that you find interesting, its obstacles and advantages, keep a diary in which you describe your experience implementing it in your daily life.
- ➔ Choose a person in your life to whom you want to share the R-principles with, try to share with them what they mean and the difference they can make not just for us but the whole planet.

Tips for facilitators

For the game part try to make it fun and not so rigid, just be aware of the time constraint in order to have a good sharing session during the plenary. It is encouraged to go around and check-in during the activity, for possible questions, but also as a reminder of the time participants have left. Some items might have sentimental value, try to be aware of that and to take care of the emotional aspect of this exercise.

3

Introduction to Circular Economy

Space for participants to reflect on their existing knowledge, co-create and learn more from other participants.

Competences

- ▲ **Technical: Critical understanding of Circular Economy**
- △ **Innov-Action: Teamwork and collaboration**

16-24

90-120 minutes

Working groups

Objectives

- ➔ Identify existing knowledge on circular economy
- ➔ Reach a common understanding with the group on what is circular economy
- ➔ Identify linear and circular examples in the local community

- ▶ Whiteboards and markers
- ▶ Online space to upload pictures
- ▶ Optional: beamer to show the group videos

Step by step

1. (5') Introduce the workshop and the goal to reflect on the existing knowledge of circular economy
2. (5') Ask participants to write down individually everything they know about circular economy, what they think it is, what are the elements of it. They can include examples as they come to their mind, to be used later on.
3. (20') Divide participants into groups of 4 with a method of your choice. Hand each group a whiteboard with some markers and give them a task of sharing what they know of circular economy and writing/drawing down in their group their common understanding of what it is.
4. (10') Ask (some) groups to share their discussions, writing key elements down to a common whiteboard. If any group wrote a definition instead of drawing or keywords, invite them to share.
5. (5') Introduce to participants the three key principles of a circular economy, develop by the Ellen MacArthur Foundation
6. Design out waste and pollution, example: Gerrard Street headphones which are designed to be repairable and modular.
7. Keep materials and products in use, example: Glass bottles circulation where bottles get washed in the factory and will go to the production line again, getting a new label and a beverage inside.
8. Regenerate natural systems, example: Venlo City Hall, green wall improves the indoor air quality as well as the outdoor air quality in 500 m radius.

9. (30'+) Find linearity and circularity examples in the local community
10. Ask teams to walk around in the community where the training takes place and notice either linear or circular aspects, make pictures and share them to a common folder.
11. Give participants two questions for the task: What enables linear or circular solutions? What are the reasons for linearity and circularity?
12. (20') Once back from the neighbourhood research, ask participants to share what they found and discuss the reasons behind possibilities for linearity and circularity. You can share the images in a common chat group or through a beamer.

Debriefing

➔ What are the (deeper) reasons for linearity?

➔ Which circular solutions could be easiest to implement?

➔ How do you contribute to the transition to circular societies?

Evaluation

Summarise findings of participants and ask them to write down one thing they take from this workshop for their future action. If someone wishes, they can share it with the group.

Follow up ideas

After this activity participants could:

➔ Reflect on their own lives and lifestyle to notice if and how sustainably and circular their own lives are

➔ Have a workshop on change management and roles in circular economy to understand how change happens and who should lead the change

Tips for facilitators

Introducing Circular Economy to youth new to the theme can be a basic process, while it might require more competence on Circular Economy than working with experienced people. Have clear and concise definitions and be ready to share diverse examples for the group to understand better.

Handouts

Short video about what is circular economy is: https://youtu.be/zCRKvDyyHml

Circular Economy principles: https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

Headphones to last a lifetime: https://gerrardstreet.nl/en/

Venlo city hall case study: http://www.c2c-centre.com/sites/default/files/Case%20Study%20City%20Hall%20Venlo_Final_1.pdf

4

Circular Court

Change management and roles in circular economy

Circular Court workshop gives an opportunity for participants to understand what the elements of change management are and who the stakeholders are the stakeholders in a circular economy. In addition, participants get a chance to go through a roleplay game, where they represent different stakeholders and have to convince others that they don't need to lead the transition towards a circular economy.

Competences

- ▲ Technical: Critical understanding of Circular Economy
- △ Innov-Action Teamwork and Collaboration
- △ Innov-Action Problem Solving

24 - 30 people

90 minutes

Role play/Simulation activitv

Objectives

- ➔ Understand key elements of change management and the connections between those elements.
- ➔ Identify reasons why different stakeholders should and shouldn't implement circular economy.

- ▶ 3 A4 sized papers with one word on each of them (knowledge, things, values)
- ▶ One whiteboard per group

Step by step

1. 5') Introduce the workshop to the group focusing on the intention to understand what the elements of change management are, who the stakeholders are in a circular economy, and what their responsibility is.
2. (10') After warming up the group, start with an introduction to Change Management.
3. Explain and introduce to participants the key elements of change management as:
   Values - people's behaviours depend on their values. For them to do something differently, their values must change.
   Knowledge - for change to happen, people need to gain new knowledge
   Things - under things are physical things, but also processes and procedures, for example in organisations. For change to happen, there has to be a new thing or a procedure appearing.
4. (5') Ask participants who they think are different stakeholders in implementing circular economy. Help them to reach at least these 3 categories: citizens, businesses, and state (public sector).
5. Once you have them ready, propose a voting for every participant to vote on who they think should implement a circular economy. Write down the numbers.
6. (25') Divide participants into 3 groups (if you have a lot of participants, divide them into 6 groups) and give each of them a whiteboard and a stakeholder (business,

citizen, state). Give them a task to discuss in their group (and write down) reasons why the other two stakeholders should lead the transition to a circular economy, and their stakeholder shouldn't do anything.

7. If there were 6 groups, then combine the two that worked on the same stakeholder and ask them to put their case/arguments together.
8. **(20') The Circular Court.** Have each group present their arguments. Play it out as in a court. You can start it by saying "Welcome everybody to the Assembly of the People! We are gathered here today to decide who is responsible for implementing a circular economy!" Let participants respond to each other's arguments. Discussions can get very heated.
9. In the end, have each group present their final statement. Conclude the court and make final voting on which stakeholder should implement a circular economy.
10. (20') Close the court process through comparing the voting results with the first voting. Ask participants if and why there are or are not any differences, and to share what they found (if possible share the pictures) and discuss the reasons behind possibilities for linearity and circularity.
11. Conclude the activity saying that this kind of debate is going on each day between different stakeholders. There is no right answer, each party has to do their part.

Debriefing

- ➔ How was the role-play for you, was it easy or hard? Did it support finding more insight on the issue?
- ➔ Which change management element is easiest to change? Which is the hardest?
- ➔ What is your main takeaway from this workshop?

Evaluation

Summarise findings of participants and ask them to write down one thing they take from this workshop. If someone wishes, they can share it with the group.

Follow up ideas

- ➔ After this activity participants could reflect on their own lives on what kind of circularity fostering changes they could implement.

Tips for facilitators

When introducing change management elements, it is good to explain that each of those elements influences each other as well.

You can provide examples as: for people to start sorting their waste they first need to have a value in sorting waste and recycling, as a responsibility of a citizen. Secondly, they need to have knowledge on how to properly sort their waste. Thirdly, there have to be in place things - in the context of our example, infrastructure for waste bins and comfortable processes for citizens to follow (location of bins, emptying frequency, etc.).

5

Putting Circular Economy into perspective

Groups discuss and present a diversity of models and different approaches to circular economy.

Competences

- ▲ Technical: Critical understanding of Circular Economy
- △ Technical: Systems thinking

max. 30 people

100 minutes

Working groups

Objectives

- ➔ Learn about circular economy from different perspectives.
- ➔ Present different perspectives on the Circular Economy.

- ▶ Different visualisations of Circular Economy, annexed pages 94-96.

Step by step

1. (10') Introduce the aim of the activity, to dig into different approaches to circular economy, and form groups to work on each of the models you will use.
2. Give to each group their model and two main topics to come back and present:
   - ➔ In which way this model represents circular economy?
   - ➔ What is the main message you want to convey to the other groups in your presentation?
3. (25') Give the time for groups to look closely at the model they were assigned and to reflect on what this visual explains about circular economy. You can propose each group to start with a personal reflection and continue with a group discussion.

4. (35') Explain to participants that while one group presents the others can take notes on what they found more useful and questions they might have. Follow a process where 2 groups present their models and have common time for questions and dialogue, followed by 2 new groups.

5. (30') Come back to the complete group together, share the enthusiasm of the good work and presentations. Continue with any open conversations that came up between groups and continue through participants notes building an understanding of Circular Economy.

Debriefing

- ➔ Describe what happened in your groups? Did you have different ideas after the individual reflections?
- ➔ Did the model, or what was discussed after the presentations, trigger any memory in you?
- ➔ What do these different models of CE imply?
- ➔ Looking at your own work on CE, which steps could you take in the future using what we learned about today?

Evaluation

To evaluate the learning through the session, you can have a series of images of each model used around the room. Ask participants to mark with a question mark the model that is less clear for them, and with a star those about which they learned something new. You can have space for them to write these questions and learning.

Follow up ideas

This session can be followed up with another CESCY method to bring the gained knowledge into practice and to contextualise ways to implement circular economy.

Tips for facilitators

If you see groups tired, have a short activity where their energy comes back.

You can also have the final debriefing session in the same or new groups for participants to have a more comfortable space for reflection and learning.

6

Make the R-principles our principles

Participants learn about the R-principles, brainstorm and plan on how to incorporate them to their context. e.g. an event they are organising, the organisation they are part of, their personal lives...

Competences

- ▲ Technical: Critical understanding of Circular Economy
- △ Technical: Systems thinking

16-30 People Active in Youth Organizations

120 minutes

Working groups

Objectives

- ➔ Remember the existence of the R-principles.
- ➔ discuss how to apply different R-principles in a project or organisation.

- ▶ Whiteboard and markers
- ▶ Handouts R Model on pages 92-93.

Step by step

1. (10') ENGAGE: Ask participants to share about what CE means to them, and what their main CE project is in their own lives. Make notes to use afterwards of the exact R-principles (annex) they are talking about.
2. (20') SHARE: Using the Socratic Method (annex) extract the different R-principles from the participants. If the R-principles relate to what participants said in the ENGAGE, point this out. At the end of the SHARE, the participants know the 8 R-principles, and recognize the hierarchy in these principles (e.g. Reduce > Reuse> Recycle).
3. (30') PRACTICE - GROUP WORK: Make groups of people that work on the same/similar projects. In these groups, the participants look at a specific project/organisation/their lives and discuss examples of actions to apply the R-principles. They should try to find one example for each of the R-principles (Rethink excluded, as rethinking is what they are doing).
4. Explain that each group will have 150 seconds for a presentation of 2 examples followed by a discussion on all the examples

5. (30') PRESENT AND LEARN: Organize the short presentation in a dynamic way and use a whiteboard to showcase the actions for each R. If some R was not shared, you can ask for a couple extra examples. After the presentations, start a conversation from participants questions and comments and build up with your questions towards possible actions.

Debriefing

- ➔ Which R-principle was the easiest to find actions for? Which was the most difficult?
- ➔ What stops organizations and projects from being more circular?
- ➔ What small actions can have the highest impact?

Evaluation

Spread a set of cards or postcards with different images for participants to choose one that represents their contribution to the circular economy after learning from the 8R.

Ask how the session contributed to their attitude to those who want to share.

Follow up ideas

- ➔ Participants can choose 3-5 actions they want to take in the next month. These can be from the actions you thought about in the group work, from the examples or something inspiring during the discussion. Participants can also share those actions within groups and discuss how you want to keep each other accountable.

Tips for facilitators

When introducing the Socratic method, it can be new for many people, provide an example to make it easier to understand.

There are various methods to tackle the 8R model with participants that you can check if you want to design your own session.

Adaptation of method created during CESCY Training of Youth Workers

Authors: Lars Basset, Johannes Spaas

7 Circular business model canvas

Where do circular economy and business model canvas interconnect?

Competences

- ▲ Technical: Critical understanding of Circular Business Models
- △ Technical: Design Thinking
- △ Technical: Participative Project Management
- △ Innov-Action: Activating a Change

Any size

90 minutes

Case Study

Objectives

- ➔ Understand what a business model lacks in linear economy
- ➔ Learn through practice how circular economy ventures get started
- ➔ Gain motivation to participate in the circular economy

▶ Annexed Circular Business Canvas printouts on page 111 (A3)

Step by step

▶ (15') Brainstorming on what is circular economy, and what companies the group knows that can be circular. Share with the group that we will support the process of becoming circular.

1. (10') Show the Circular Business Model Canvas to participants as the different elements are explained, their order and what makes the canvas circular. Take time and provide examples with each box.
2. You may share copies of the annexed canvas to the group.
3. (25') In groups of 3-5 participants, give them 25 minutes to start filling in their canvas for a commonly proposed business. Get the group to think based on what is reality of the company, and to bring the elements they find more relevant to shift to more circular practices.

4. (15') Get groups in pairs to share their business model canvas to each other, provide feedback and discuss ways for improvement of the proposed solutions to become more circular.
5. (10') Let the groups come back to work on a final presentation implementing the feedback received.
6. (15') Have the groups come together and make a 3 minute presentation of their business model canvas focusing on what improvements the company can make to become more circular.

Debriefing

- ➔ How was the process with the canvas? Was anything unclear or hard to create?
- ➔ What is important in the process of makingr an existing company more circula?
- ➔ How can we imagine companies that are circular and sustainable from design?

Evaluation

Participants understanding of both what makes a company circular and what is a business model canvas can be checked at the end of the activity to evaluate how the group understood the session.

Follow up ideas

- ➔ When the group intention is to focus on their entrepreneurship, a follow up action can continue in the direction of participants starting an own project and designing a circular business model for it.
- ➔ A follow up option can be to have this activity with local business. Afterwards, go, meet and interview the business that you have worked with sharing with them the circular options they have.

Tips for facilitators

The activity requires previous experience working with business model canvas and the ability to connect it with the environmental, social and economic dimensions. Have an example at hand in order to share with participants.

8 Business model interview

Can we talk about circular economy without those who are implementing it?

Competences

- ▲ Technical: Critical understanding of Circular Business Models
- △ Technical: Participative Project Management
- △ Core: Ethics for Circular Economy
- △ Innov-Action: Assertive and empathic communication

Any size

90 minutes

Case Study

Objectives

- ➔ Understand what a business model is into practice
- ➔ Learn through example the values of circular economy
- ➔ Gain motivation from professionals engaged in the circular economy

- ▶ Whiteboards and markers
- ▶ Phone or laptop for research

Step by step

1. (15') Welcome participants and ask them about which circular economy companies they know. Let the group start sharing all sort of companies, check with the groups if someone doesn't know what the company does or if people are not sure if they are sustainable, circular, zero waste, linear or maybe greenwashing. Explain to the group these concepts as they come up or after few examples.
2. (15') Divide participants in groups of 4-5 and tell each group that they have 15 minutes to research about companies in the town or region they live in that make themselves Circular. Find for each of them why they say they are circular, what they do and how big they are. Each group should come back after the 15 minutes with one company that they want to learn more about.
3. (10') Have a round where each group shares how their process was and the company they want to learn more about. Check if participants had an easy task to find circular companies, and if those companies who call themselves circular indeed are.

4. (25') Send the groups back to group work, where they will find more information about the selected company and prepare an interview about their business model, their values and ethics and now they contribute to the circular economy. Frame the interview as a process of no more than 30 minutes and with a clear aim, so each group defines the aim and makes sure questions support reaching that goal.
5. (15') Get the groups to join in pairs, so each one of them listens and feedbacks to each other. Share details about the company they are researching and provide time for both groups to roleplay the interview with each other so they can improve their interviews.
6. (10') Bring the group together to plenary and provide space for sharing their feelings through the process. Get groups to share the main aim of their interview and a couple of questions that would support them to reach that outcome. Groups might get inspiration from each other, so allow time for them to take notes and add content that can improve their interviews.

Debriefing

- ➔ What defines a circular company? Do companies share those elements?
- ➔ Why some companies don't define themselves as circular? Why others do?
- ➔ What do you want to learn through the interview?

Evaluation

Test the interview with a person outside of the training as a way to evaluate the outcome of the session before interviewing the company.

Follow up ideas

- ➔ Support participants in reaching out to the companies they worked on and join them to facilitate the interview process.

Tips for facilitators

You can start the process by yourself contacting different companies that contribute to the circular economy and inviting them to the activity, giving to participants their information in advance for a short session to investigate the company and create their interview.

9

Circularity in everyday life

Design a system in your life that prevents waste in your home and when outside while learning to notice bigger opportunities for system change starting from yourself.

Competences

- ▲ Technical: Critical understanding of Sustainability
- △ Core: Vision in Circular Economy
- △ Core: Motivation for Circular Economy

5-30

90 minutes

Reflection

Objectives

- ➔ Explain what the R's are and how they are already following these rules
- ➔ Learn with practical examples how to reduce waste

- ▶ Recycled paper and pens
- ▶ Beamer for presentation
- ▶ Handouts page 97

Step by step

1. Before the activity starts, have ready practical ways and local tips on how to live a low waste life.
2. (15') Welcome participants and ask them why is it important to talk about waste prevention, have a short conversation with diverse perspectives.
3. (15') Describe the two approaches of linear and circular. Today we live in a linear take-make-waste economy, but our goal is to become a more nature-like economy, a circular economy. In nature, nothing is wasted: a deer eats grass, poops, the poop is eaten by microorganisms and turned into soil. From the soil, grass grows again. There are many circles like this, ask the group to share few examples about how nature is circular.
4. (20') Reducing waste in our personal lives teaches us to notice what could be changed on a bigger scale: in our city, local companies, schools, youth centres, and events. We can demand change if we know what to demand. Share with the

group the R keywords from the attached handout and ask them to order them in a hierarchy based on the impact they have in our society.

5. (10') Check with the group the hierarchy they created and ask for arguments about why it is that way.
6. (30') Start a conversation on each of the 5 R groups to reach a deeper understanding in the group. Use the handouts to structure your process.

Debriefing

- ➔ Why is it important to talk about waste prevention in your home?
- ➔ What is the most important rule in the R rules and why? Present the rules in a mixed up way.
- ➔ How are you already following the R rules (refuse, reduce, reuse, rethink, recycle, rot)?
- ➔ What do you think you would be willing to do more to follow the R rules?

Evaluation

Get information from the group about which R principles they already implement and which they want to include to their routine after this session, learning what more can be done.

Follow up ideas

- ➔ Connect with a local company and give out free samples of zero waste hygiene products (dental tabs, shampoo bars etc) to those who want them
- ➔ Visit a local packagefree shop or a zero waste cafe/restaurant
- ➔ Have them adapt and put up printables into their apartment buildings on how to give a new life to things
- ➔ Continue the workshop with the creation of guidelines for the neighbourhood. You can use this canva template https://www.canva.com/design/DAFH0DSvG1I/7KVgm3P3BEyb6GPUkY1E8A/edit

Tips for facilitators

You can either decide to go with the group sorting the Rs hierarchy in the correct order and putting things in correct places or show it to them as you explain it. It is possible that they order the Rs and argument their decision in a convincing way different to our hierarchy, be ready to adapt and share why there were differences.

10

Spoken Word Performance

Participants create together a poem about their actual feelings about the future, the CE and the theme of sustainability. This art creation touches the heart of other people when expressing the emotions someone has about the world we live in and creates awareness

Competences

- ▲ Technical: Critical understanding of Sustainability
- △ Technical: Critical understanding of Circular Economy
- △ Core: Vision in Circular Economy
- △ Innov-Action: Assertive and empathic communication

Any size (Groups of 3-4)

45-90 minutes if performing

Working groups

Objectives

- ➔ Share our emotions for better understanding of Sustainability and Circular Economy
- ➔ Build awareness that we are not alone, we share the same feelings and thoughts, we can work together to improve the situation.

- ▶ Recycled paper and pen
- ▶ Keywords in Handouts on page 98
- ▶ Microphone or Stage for performing

Step by step

1. (10') Explain the activity, to make a poem about CE / sustainability that will touch another person emotionally. Make groups of 3 people. Give each group 3 keywords about circular economy and 2 random emotions. Groups have 20 minutes for creating the poem using these 5 words.
2. (20') Let groups start the process building the vision of the message they want to show, create their poem and prepare their performance. Show your availability for any questions or needs they have in order to finish their task.
3. (15-30') Prepare the room for the performance of groups. Listen to their art group by group, with time between them for interiorizing the poetry.
4. (20') Welcome back participants after their performances celebrating their achievements and asking how they felt. Some might be nervous, others might not have done it as well as they liked, provide the space for them to also express themselves. Remember something fun, inspiring or beautiful to bring the group back together and proud of their work.After sharing emotions, continue the process towards your learning aims

Debriefing

- ➔ Was it different to reflect on CE and Sustainability from an emotional perspective?
- ➔ How did you plan on creating empathy to transmit the emotion?
- ➔ What did you learn about CE and Sustainability from using arts?
- ➔ How can we reach out to other people who don't know about CE and Sustainability?

Evaluation

Evaluate with participants the usefulness of emotions to tackle circular economy.

Ask participants if they feel comfortable sharing their art creations, and invite them to add other art they find inspiring.

Follow up ideas

- ➔ Participants in a longer process can create inter-connected poems to give a group performance. For this, the process should start with the creation of a common aim and a flow of emotions that participants want to express. As a final tasks, the complete group can have a final poem together to add up the emotion.
- ➔ This group performance can be played to other groups and be followed with a conversation about CE and Sustainability both from an emotional and facts based perspectives, sharing personal situations and learning definitions and good practices.

Tips for facilitators

When possible, the process will benefit from a full performance from participants. Some might take it more serious than others. Let the different styles appear, including more informal or joking ones. And allow those who don't feel secure to find alternative ways to express themselves.

Spoken word can be replaced with other artistic forms of expression as painting or dance.

Adaptation of method created during CESCY Training of Youth Workers

Authors: Kuku Tesfaye, Mariana Maraschin, Dianne Nicolai

11

Spaceship visit to planet Earth

Three missions to introduce participants to the 3 main dimensions of sustainability.

Competences

- ▲ Technical: Critical understanding of Sustainability
- △ Technical: Critical understanding of Circular Economy
- △ Technical: Systems Thinking

Any Size

60+ minutes

Roleplay / Simulation

Objectives

- ➔ Understand what sustainability stands for and the 3 dimensions of sustainability (environmental, economic and social)
- ➔ Understand the different circular economy principles in opposition with the linear economy at local, national and international level.
- ➔ Gain the ability to analyse complex systems across different domains (society, environment, economy) and different scales (from local to global).

- ▶ Small whiteboards for each team
- ▶ Phone with internet for research
- ▶ Handouts on page 99

Step by step

1. (5') Welcome participants and introduce to them the scenario:
2. We are on the planet Epsilon. The planet is not doing well. For that reason, the planet's council decides to send out 3 teams of explorers to go to the planet Earth and come back with good practices about how to make Epsilon more sustainable. Each team will be in a different spaceship, and will have a different mission.
3. (10') Show the details of the three spaceship missions described in the Handouts. Divide participants into 3 groups, make more parallel groups if the size is too big. Give each group 20 minutes to do their research and come back to present in under 150 seconds the main findings.
4. (20') While groups are fulfilling their missions, some might stay in the room with internet and their notes, others might go out to nearby areas. Keep track of time, inform participants when half of the time passed and to give information, answer questions and support them if needed.

5. (10'+) Welcome groups as they come back and prepare a stage for their 150 second presentations. Each team presents their findings, after all teams with one mission present, the rest of the teams pose questions and have a short discussion.
6. (10') Ask each mission to share as main outcomes the solutions that can be applied to planet Epsilon based on their research. Continue the debriefing to connect planet Epsilon with themselves.

Debriefing

- ➔ What you will take with you from this mission on planet Earth? (Write one word on a collective paper)
- ➔ Did you have any aha-moment during the activity that you'd like to share with the group? (whole group discussion)
- ➔ What is one policy that you learned that you think you could put into action in local, national or/and international level? (whole group discussion).

Evaluation

For evaluation, ask each mission team about the task they had and if they would add or change anything to make it more effective.

Follow up ideas

- ➔ When you have more time, you can make this a longer activity.
- ➔ Prepare make up and recycled materials for each mission to dress up as the group of citizens from planet Epsilon.

Tips for facilitators

Add one more step in the activity where the participants get together after the presentation of their findings and design solutions for the planet Epsilon based on their findings and the needs of the planet (defined by the organisers). The participants will practice design thinking and problem solving competences as they will be able to design solutions based on the needs of the target group that is set to achieve desired results and also they will be able to reach conclusions using reasoning and creative thinking by learning from the mistakes of humanity, respectively.

Experiment with "aliens"- frame and different missions that could be used to acquire different circular economy competences.

Adaptation of method created during CESCY Training of Youth Workers

Authors: Carolina Sapienza-Bianchi, Johannes Spaas, Lars Basset, Katerina Chantzi

12

Who am I talking to today?

Participants are divided into groups and randomly assigned one CE business model. They then research and learn more about this model with their objective to later present and explain that CE business model to a specific stakeholder.

Competences

- ▲ Technical: Systems Thinking
- △ Technical: Critical understanding of Circular Business Models

12 - 30 people

140 minutes

Debate and Public speaking

Objectives

- ➔ Become aware and knowledgeable of the different CE systems/ models and CE business models
- ➔ Reflect on how these systems/ models and business models came about, the issues they tackled and look to resolve, and the benefits this will entail
- ➔ Prepare a presentation catering to a specific audience keeping in mind their needs and peculiarities

- ▶ Beamer
- ▶ Recycled cardboard or paper
- ▶ Smartphone or computer to research and take notes
- ▶ Handouts "Cicular Model Bussines" on pages 100-103

Step by step

1. (10') Before the activity, prepare the materials at the handouts
2. (10') Divide participants in groups of 5 people. Give to each group randomly a piece of paper with a CE business model written behind it, and explain that the activity will have 2 parts: Part 1 will be about researching the specific business model they have received, and Part 2 will be about presenting that business model, in under 4 minutes, to a specific audience. Groups will receive their specific audience once we are done with Part 1.

(25') Part 1 The research

3. Participants research the business model they've received as a group. When all groups are finished and participants feel they're satisfied with the knowledge they have of the business model picked, facilitators then randomly handout the second piece of paper with the assigned audience.
4. (5') Interlude: Bring all groups together to present the diverse audiences written on the paper. Before participants receive their audience role, have time for questions for clarification.

Part 2 The audience

5. Participants now have 30min to go over their assigned audience's needs and how

to best cater their presentation of the business model received in Part 1. Groups are free to choose how to present their business model: PowerPoint presentation, oral presentation, storytelling, theater play. The only constraint they have is that their presentation must not be longer than 4 minutes.

6. (40') Participants get back to the plenary and share their presentations. Afterwards, debrief the group process and the learning from the presentations.

Debriefing

- ➔ How was your group process? What worked in the group decision-making and what was inefficient? What could be done differently next time?
- ➔ Did you know the business model that you received before this activity? How did you find out about it?
- ➔ How did you conduct your research?
- ➔ Which do you think are the key aspects to a functional and efficient CE business model? Why and how?
- ➔ What was important when preparing your presentation knowing your audience before-hand? What are the common aspects that bypass generations and aren't specific to a certain demographic?

Evaluation

You can evaluate this activity from the perspective of participants as an audience. After listening to a series of presentations in the raw it can be easy to disconnect. Ask which presentations they recall better and what made them connect with them.

Follow up ideas

- ➔ Network with peers and people who share your vision and want to get to know more about CE and CE systems/business models and apply them in their day-to-day lives and in their work.
- ➔ Can I suggest a certain business model in my line of work? How do I go on about a process like this?
- ➔ In your next presentations try to know something more about your audience and see if changing some details or approach can change how the audience reacts and interacts with vou

Tips for facilitators

It's important to decide what kind of approach you want to have in relation to the audience, if it is from a marketing point of view, an empathic point of view, a common culture point of view... You can change the audience to support participants' learning, the important part is that participants think of different ways to explain something and don't automatically assume they will be talking to people like themselves who share a certain amount of knowledge or point of view in relation to CE models, sustainability and life in general.

Before presenting, you can either choose to have the audience kept secret and revealed at the end or reveal the audience before the presentation and ask those who are listening to identify themselves with that audience.

13 Experiencing systems thinking

A workshop to experience the interconnections in a different way. In cooperation, we will debate about complex problems in an interconnected world and how to map them.

Competences

- ▲ Technical: Systems Thinking
- △ Innov-Action: Problem Solving
- △ Innov-Action Working in complex environments and situations

10-40

100 minutes

Working groups

Objectives

- ➔ Realize and understand how the systems are interconnected
- ➔ Reflect about consequences of easy answers to complex problems
- ➔ Understand the complexity of the world's major risks

- ▶ Beamer with speakers
- ▶ Whiteboards and markers

Step by step

1. Preparation: Open the video and the World Economic Forum Risk Report your laptop and make sure it is visible and with sound.
2. (15') Start the process asking the participants if they know what systems thinking is and why it is important for the Circular Economy field. To support their contributions, bring some good and updated examples. Use an energyzer to transition to the main activity.
3. When you have time, contextualize the introduction explaining about the CESCY research and the main findings.
4. (15') Start the process playing the cats in Boreo video. After the video, open the space for the participants to share their insights, thoughts and learning. Take note of keywords that they use that you can connect to in the next steps.
5. (10') Promote a debate about easy solutions in a complex system. Contribute to the debate addressing the consequences and choices for complex problems (such as implementing a Circular Economy, for example). Ask the group to support their contributions with real life examples, and share yourself if they can't.
6. (15') Show them page 5 of the World Economic Forum Risk Report 2020 (The Global Risks Interconnections Map 2020). Explain the colors, the connections and ask for some insights and comments. Discuss about the complexity of the global risks, how the circular economy could be a solution for some of them. How (or if) the implementation of a circular economy would impact other areas.
7. (10') Divide the participants in groups (of 4 or 5 - if you have a big group, or doubles if small group). Feel free to use tables and chair for this exercise. Explain them that there are ways of organizing the ideas for solving complex problems and one of them is mapping the system in a mind map. Show them different types of mind map (the WEF Global Risk Report is one of them, for example) and give a whiteboard and markers to each group to build the mind map putting in the mid-

dle an example they choose from the ones previously shared that they are most connected with.

8. (20') Give groups 20 minutes to work on their challenge mindmaps. Go around the groups helping them with this activity.
9. (10') When the time is up, ask groups to join together in pairs so each group presents their mindmap to another and provides feedback to the one that was presented to them.
10. (5') Bring the group together for closing and ask from each group one sentence that summarises their feelings about what they just experienced.

Debriefing

➔ What did you learn from your mindmaps that you can bring to your daily life?
➔ Did you share the same views in your groups? Was any decision challenging? Why?

Evaluation

As a facilitator, reflect on the process of the session after it ends to learn and improve: How was the energy of the group? Did you notice if most of the group had an active participation? Were they comfortable sharing their insights and comments?
Did they ask questions and seem interested in the topic? What do you need to change for the next time to be even better? Do you need to study more theory? Did you feel prepared to answer all the participants' questions? What do you still need to learn or improve?

Follow up ideas

To learn more about systems thinking and mindmaps, participants can follow up with:
➔ The free course about Systems Practice in Acumen Academy;
➔ Peter Senge books and online videos about Systems Thinking;
➔ Leyla Acaroglu, founder of Disruptive Design, many articles and tools online;
➔ And all the materials that the Ellen McArthur Foundation has in their website;

Tips for facilitators

If you prefer, you can start the session outside and then move indoors. Be aware of the time for each activity and adjust if you feel you are running out of time. You can skip the mapping activity and just present some possible options of mapping or give them the chance to make one as homework. You can prolong as much as you want the first activity (with movements or provocative questions) in order to adjust the time for the whole workshop; Instead of the Cat video, you can play the Wolf video.

Videos and links:
WEC Risk Report: https://www.weforum.org/reports/
Cat: Systems thinking: a cautionary tale (cats in Borneo) www.youtube.com/watch?v=17BP9n6g1F0
Wolf: COMO LOBOS MUDAM RIOS (Legendado) www.youtube.com/watch?v=fVfB4N_tvIE
Learning:www.archive.ellenmacarthurfoundation.org/explore/systems-and-the-circular-economy
Mind map: https://learningfundamentals.com.au/resources/
https://medium.com/disruptive-design/tools-for-systems-thinkers-systems-mapping-2db5cf30ab3a

14

Design for Circularity

Get started with your circular design problem by going through 1 iteration of the Double Diamond model. Starting from the design problem, you start with empathizing with key stakeholders and clearly defining what you are going to design. Different ideas are then ideated and tested to deliver a first draft or prototype.

Competences

- ▲ Technical: Design Thinking
- △ Core: Lateral Thinking
- △ Innov-Action: Adaptability and Flexibility

5-20 (Groups of 5)

100-120 minutes

Working groups

Objectives

- ➔ Learn what a design problem is
- ➔ Gain an understanding of the key elements of design thinking
- ➔ Learn how to apply these elements in working situations

- ▶ Products that are at the end of their lifetime
- ▶ Whiteboards with markers

Step by step

Prepare the design problem:

1. The easiest way to identify a design problem is by picking a daily-life product such as an office chair, a bicycle or a coffee machine that is at the end of its life. Any physical product works. A way to improve the impact of your workshop could be to get this input from actual local entrepreneurs and businesses that want to become more circular. A basic way to define the problem is: How can this product become more circular?
2. (15') Welcome the group and ask if they have ever heard of design thinking before and what they know about it. Every input is welcome. If you want you can make a word web on a white board to facilitate the brainstorming process. Try to arrive at a general definition along the lines of:

➔ Design thinking is a way to get started to turn your ideas into tangible solutions.

Or a more serious variation:

➔ Design thinking is a process for **creative problem-solving** consisting of an **iterative process** of (1) **emphasizing** with stakeholders and **discovering** the problem, (2) **defining** the challenge by clearly articulating what you are going to design and what impact you hope to have, (3) **ideate** different possible solutions and start **prototyping**, (4) **test** your solution and **deliver** it to the user.
The bold words are buzzwords that you would like to highlight from the input that comes out of the group. In order to explain the different stages of the design thinking process, show the Double Diamond model (see Handouts page 104)

3. (10') As the group is satisfied with their contribution and the definition of design thinking, bring to the process a question to identify differences for designing in a linear vs. a circular economy. For example:

➔ The scale shifted from designing products to designing services, business models and economic systems as a whole

➔ Designing is never done (iterative process). Instead of designing for a single user, we are now designing for an intimately connected web of people, spanning the globe.

➔ New tools such as artificial intelligence, the internet of things, and biomimicry mean our design ambitions are limited only by our imagination.

4. (10') Discover and Empathize

As the group is ready to start work, engage them in the first divergent phase of the design thinking process. Place the product at hand in the middle of the table or room. Let the participants experience it: how does it look, feel and smell? What sound does it make? What functions does it have? What materials does it consist of? Depending on the product at hand, it could be a fun activity to break it down into all the separate materials it consists of. Let the participants write down as many attributes, characteristics, materials and functions of the product as possible. After 2-3 minutes of individual brainstorming you can let the groups share their thoughts. The aim is here to still gather more ideas, without commenting or criticizing other ideas. Place all the ideas in the first triangle of the Double Diamond model.

5. (20') Synthesize and Define

After you have reached the point that no new ideas come up, you can move on to the first convergent phase. Start by rearranging the ideas into themes and clusters. See if you can distill key insights. The next step is to deduce a number of opportunity areas to increase the circularity of the product. Maybe it is not the chair itself that needs to be redesigned, perhaps it is the service model for leasing chairs that needs to be designed. End-up with a clearly articulated "How Might We..." question. Withhold the participant to start looking for solutions until this question has been formulated and clear to everyone.

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6. (30') Ideate and Prototype

Now that we are sure that we are designing the right thing, we go into the second divergent phase of the Double Diamond. Start again with an open brainstorming in which participants individually write down ideas on how to (re)design the product, or rather the product-service spectrum. Evaluate this first round of ideas together and start drafting a design vision: How would this product look if it were 100% circular? What other functions could it potentially have? Do this as visually as possible. Start sketching and draw a storyboard of how your product endlessly flows through multiple life cycles. Finally, try to identify the assumptions behind your ideas and formulate hypotheses.

7. (30') Deliver and Test

After the teams have come up with some ideas for circular design you can dive into the second converging stage of the design thinking process. Make them select 3-5 ideas they want to develop further. Try to arrive at a prototype that is as tangible as possible. This could be a sketch, a storyboard, or a 3D-model made out of cardboard. Then, test the design with participants from other teams. Learn from their feedback and build on your protype. Iterate this process until the team is satisfied and pitches their design solution to the rest of the group

Debriefing

- ➔ How did you experience the flow of the design thinking process? Were there any moments where you felt inspired with new ideas? Were there any moments where you felt 'stuck'?
- ➔ Did your design shift on the product-service spectrum? What are the implications for the economic system around your design?
- ➔ How did you account for different stakeholders? Is there a perspective that you haven't heard of yet?
- ➔ Thinking of new technologies, what potential do you see for your design?

Evaluation

To evaluate the design process, take a moment to reflect on how the design thinking method could help to tackle problems in your work or even daily life. Remember it is an approach that fosters experimentation and learning-by-doing. There is no need to think of the perfect solution right away. Start small and iterate your way to effective and creative solutions for the circular economy.

Follow up ideas

➔ Since design thinking is an iterative process, it can endlessly be repeated. After the teams have pitched their ideas, they can directly start empathizing again with the feedback from their users and define how to improve their design.

➔ On https://www.circulardesignguide.com/methods you can find additional methods to dive deeper into each stage of the design thinking process.

Tips for facilitators

It adds a lot of value to the workshop if the products at hand are physically present at the event. Try to bring in different types of products ranging from simple daily life products to more complicated appliances containing electronics.

Depending on the background of the group you can differentiate the scale of the design problem. In addition to the general: how can this product become more circular? You could frame the question as follows:

What other purposes could this product have?

What would this product look like if it were a service?

What does the business model look like if the product is 100% circular?

How does the economic system look like that supports the circularity of this product?

To include a competitive dynamic into your workshop, you could let 2 or more different teams work on one design problem. During the final pitches the other participants get to vote which design they like best.

15

Beware, we are watching

Participants learn about the social, economic and environmental cost of a cotton T-shirt. They then go on to plan and implement action to address the entailed inefficacies and issues, as well as the disadvantages of a linear economy.

Competences

- ▲ Core: Ethics for Circular Economy
- △ Core: Vision in Circular Economy
- △ Technical: Critical understanding of Sustainability
- △ Innov-Action: Teamwork and Collaboration

Aware or Proactive in Circular Economy or Sustainability

150-180min

Debate and Public Speaking

Objectives

- ➔ Engage critically in debates related to CE standing for a fair and just world for future generations
- ➔ Mobilize resources to achieve a shared strategic vision and common goals
- ➔ Understand the causes and problems associated with unsustainable development
- ➔ Recognizing that sustainability is about meeting the needs of present and future generations

- ▶ Whiteboard and markers
- ▶ Beamer or online space to share world counts webpage.
- ▶ Phone or laptop for research

Step by step

1. (10') Welcome the group with an energyzer and explain that the activity will have 2 parts: Part 1 will be about looking at the issues, and part 2 will be about the decisions participants will make about taking action.

Part 1 - The issue (60')

2. Explain to participants that they will take a closer look at the clothes they buy, and the impact these have on a social, economic and environmental level.
3. Ask participants to look at the labels of their T-shirts or sweaters to see where they are made and what they are made of. How much did they cost? Make a chart (on the flip chart or digitally) listing all the countries, materials and prices.
4. Now hand out the information sheets "Tracking the true cost of cotton" and "The true cost of one cotton T-shirt" and give participants 5min to read them.
5. Now, as a group, brainstorm and discuss the issues the information sheets raise, as well as information added by participants (ex: use of resources, like water and fuel, damage to the environment by pesticides and other toxins, labor rights including child labor, etc.)
6. After you've brainstormed, ask participants how they feel about buying T-shirts in light of this knowledge? Were they aware of all the passages and how these issues were connected together? What is a common enabler?
7. Now move on to another brainstorm focusing on ideas for taking action. Discuss which ideas participants would like to take forward, allow participants to do more research for more information and to think of the feasibility of their actions. Write those ideas down if you're using the flip chart or have them projected onto a monitor so participants can see them. Encourage them to debate and discuss, as well as review the research they have done, in order to refine their ideas and come

to an agreement on what and which actions they're going to take. Aim to have at least 3 different actions.

8. Have a short break between parts for the group to come back energyzed.

Part 2 - The actions (60-75 min)

9. Now ask participants to get into small groups according to the type of action they would like to take, and to draft a short outline proposal with: Aims and objectives; A description of the proposed activity, including reasons for their choice; A time-table for preparing the activity and implementing it; A list of the places where the activity will take place; Estimated costs and resources needed.
10. Participants will present their action to their peers once they are back in plenary, so they should also prepare a 3min presentation of their outline.
11. The smaller groups come back to a plenary circle and share their actions amongst each other. Once they've submitted their proposal ask everyone to comment and to make constructive criticism/suggestions for improvements.

Debriefing

- ➔ **After Part 1:** How important are the social/economic/environmental factors?
- ➔ Is one more important than the others? How do they interconnect?
- ➔ Was it easy to come up with a plan to take action?
- ➔ How easily were you able to think of organizations, NGO's, companies that are already active in this field? How do you think they are making a difference?
- ➔ **After Part 2:** How easy was it to agree on an action plan? Is everyone happy about the way the decisions were made in the small groups? Why? Why not?
- ➔ What guided you to choose the action that you chose? Did everyone feel involved, why? why not? What is each action targeting specifically and what effect do you think it will have on the short/long term?

Evaluation

For evaluation of the session outcomes, you can ask the group how they become aware of what is behind a product and how interested they are in becoming aware.

Share the different actions a consumer can take to change the process (boycott, email bombing, dissemination, making proposals for alternative processes, etc.) and check if the group adds any others and shows interest in being active through those.

Follow up ideas

- ➔ Take a step back with participants on a follow up activity and look at the bigger picture, the way we go about our lives when it comes to fast fashion is a small piece of a bigger puzzle. What does this say about capitalism and the way it treats everything it comes into contact with? Can we reform capitalism? Or do we need a new system?
- ➔ You can show the group documentaries and research done on this topic. Are there differences around the world? What can we learn about a different point of view or take on a global issue? What does this mean for globalization as we know it now? Look into alter-globalization, its roots and propositions/causes – how does it differ from the globalization we've experienced until now?

Tips for facilitators

World counts webpage www.theworldcounts.com/challenges/consumption/clothing/world-cotton-production-statistics

Facilitators must be prepared on the material, ready to help participants with their research and aware of the possible follow-ups/connections they'll make. Depending on which country you're in, check if there are organizations/NGO's/companies who specialize on this topic – it could be helpful for guidance during and after the activity.

Adapted from Compass, manual for human rights education with young people, 2015

16

Lights, camera, circular action!

Participants brainstorm around the substitution element in Circular Economy, they're then divided into smaller groups to shoot a short video in which they show which substitution they think can bring a positive change.

Competences

- ▲ Core: Vision in Circular Economy
- △ Innov-Action: Teamwork and Collaboration

15 or more people

120 minutes

Video making

Objectives

- ➔ Demonstrate that a vision into action can be used to guide decision-making
- ➔ Mobilize resources to achieve shared strategic vision and goals
- ➔ Understand the importance of working cooperatively with others to achieve a common goal
- ➔ Learn how to apply CE knowledge to achieve CE goals

- ▶ Whiteboard and markers
- ▶ Beamer or online space to share the picture on page 105
- ▶ Phone or laptop for research

Step by step

1. (5') Welcome participants and explain that they will work on one of the most important aspects of Circular Economy: substitution. As an example, you can talk about the issue of plastic bottles and bottled water in general, and how by installing free/cheap water dispensers a city can become more circular and help citizens be more autonomous about not using plastic water bottles or buying bottled water.
2. Introduce that the activity will have two parts, a first brainstorming part in which we will all brainstorm which things can be substituted and how, and a second part in which the groups will each make a short video of the substitution they choose. Divide participants into groups of 5-6pax. After Part 1 all participants come back to plenary and share what they've discussed and declare which element they will work on so that facilitators can write it down, also in case two or more groups have the same element we can all discuss it and find ways to add details or take a different route so as not to create similar work.

Part 1 - What can be substituted? (20')

3. Participants brainstorm which things can be substituted and choose one that they all would like to work on in a short video, similar to a PSA (Public Service Announcement) in the style of filming.
4. (10') All participants come back to plenary and share what they've discussed and declare which element they will work on so that facilitators can write it down, this can be functional also in case two or more groups have the same element then we can all discuss it and find ways to add details or take a different route so as not to create similar work.

Part 2 - Creating the video (60')

5. Groups can now create their short video, no longer than 150 seconds. Support their process and invite them to start with a clear aim in form of a message before starting recording.
6. (15'+) Back to plenary, prepared for presentations, groups show their videos. Collect inspiring reactions after each videos before a final closing conversation.

Debriefing

- ➔ How was the initial brainstorming process? How did you feel working towards a common goal and creating a common vision?
- ➔ What inspired you and what step forward do you want to take?
- ➔ What was functional in making the video? What didn't work and why do you think it didn't?

Evaluation

To evaluate the process you can get feedback from participants on the quality and feasibility of the created videos. Did the group think about achievable actions that will support circular economy?

Follow up ideas

- ➔ Organize for the group to get in touch with their municipality about these substitutions, see if the ideas can be implemented locally or in a small group of friends.
- ➔ Are there NGOs or social movements that have already implemented these substitutions? How? What processes have they used and can you make them your own to move forward?
- ➔ Provide future opportunities for youth to think about other substitutions they can make in their own life and how they can inspire others

Tips for facilitators

Do some background research on substitutions that do exist in the area you will be working in and take some pictures or be ready to talk about them at the end of the activity so that participants can witness them.

17

Tutti Frutti Core

Mandala art as a way to reflect on core competences

Competences

- ▲ Core: Vision for Circular Economy
- △ Core: Lateral Thinking

5-30

75 minutes

Arts

- ▶ Blindfolds
- ▶ Natural building materials

Objectives

- ➔ Learn that trust is needed in circular economy and for any change
- ➔ Understand that leadership is part of teamwork in service to those who depend on you.

Step by step

1. (5') Introduce to participants in a circle that they will go through a set of activities together, one after each other.
2. (10') Divide participants into two groups, and ask each of them to make lines looking at the back of the person in front of them, like a train. In this position explain them that all will close their eyes except for the last one, who will guide their train. Both groups will receive the task to reach from the start to a destination, and during that process they can't speak or use sounds.
3. (10') Give both groups 10 minutes to decide the way they will communicate. Each group separately brainstorm and decide on their communication strategy to move as a train. After time is over, both groups have the chance to ask questions for clarification. After that, no sounds are possible.
4. (10') Following their communication strategy, standing as a line with eyes blindfolded, each group goes towards the goal each back of the line received. need to direct the trains toward the goal. Create obstacles in the process for participants not to go on a simple straight line.
5. (20') Once groups arrive at the destination, celebrate success or enjoy the pro-

cess. Share with both groups the next task, a collaborative artistic activity. The group together needs to decide on a design and create a mandala with materials on the venue where they are, for instance a park or the beach. This mandala needs to represent a Circular Society. They can ask people around for help to create more impact.

6. (25') Once the mandala is finalised, get the group to make a circle around them and explain its meaning and elements. Continue the process with a debriefing of both activities. Ask each person says one word that explains what they feel after this session.

Debriefing

- ➔ Can you trust people you just met? What makes you trust somebody?
- ➔ Which moving instructions did you think for the train? Did you anticipate possible narrow spaces, a way to jump or to crawl?
- ➔ What role did you take during the different activities? Who took the lead? What made you engage?
- ➔ Could you connect your personal interests to build a common piece of art without losing your idea?

Evaluation

You may ask the same question online using Menti.com or Slido.com to create a tag cloud.

Follow up ideas

- ➔ This activity supports building trust in the group. Continue the trust building process with more interactive activities so participants get to know more about each others dreams and motivation.
- ➔ Communication without seeing and sound during the train activity is only possible through body contact. Make sure everybody is comfortable and support the group if they decide any form of touch that can be uncomfortable for group members.

Tips for facilitators

Using trust to build the group and a common vision is a good activity to start a long term learning process. At the same time, it requires for the group to start a process that will continue. Check in which forms you can support the group to build as a team!

Adaptation of method created during CESCY Training of Youth Workers

Authors: Shad Raouf, Elena Gonzalez, Iván García

18 Motivation through food

Digging into the details of what we eat and what we don't we can find out how we want to act

Competences

- ▲ Core: Motivation for Circular Economy
- △ Technical: Critical understanding of Circular Business Models
- △ Innov-Action: Activating a Change

10-30

90+ minutes

Case Study

Objectives

- ➔ Learn about the process behind common food and drinks in our lives
- ➔ Understand what is better and worse for our bodies
- ➔ Gain motivation to contribute to more circular societies

- ▶ Phones and laptop for research
- ▶ Handouts of EC labels on page 106

Step by step

(10') Welcome participants and ask them where they buy their food. You can start getting more general answers about if they cook or eat out, as the conversation and examples flow, narrow to specific places where they buy food. Once everyone shared, ask about how they can find in those places the impact of the food they buy to the environment.

1. (15') Share with participants the images of the different quality labels for food from the European Commission and from independent institutions. Ask them if they know about them and if they know others. If they don't know, give time for the group to research online.
2. (30') Organize participants in groups of 3-5 and explain that for the next 30 minutes they will go out to the neighbourhood market and super marker to investigate the labels of different food they buy and check if their options are better or worse than other offers. Ask them to documentate the process with pictures and video, so once back they can share their findings with the other groups.

3. (10') Welcome the group back, give them time to settle from the visit and to prepare their presentations. Start back with an energyzer.
4. (15') Explain to participants that while one group presents the others can take notes on what they found more useful and questions they might have. Follow a process where 2 groups present their findings and have common time for questions and dialogue, followed by 2 new groups. Invite participants to share their pictures and videos in the same online platform you used to share the quality labels.

Debriefing

- ➔ What does it mean that a product is more or less sustainable, circular and healthy for us economically and physically?
- ➔ Which are the most common and affordable sort of products? Why?
- ➔ What is necessary for companies to produce circular and fair products?

Evaluation

Ask participants, as a form of evaluation, about their food buying and eating practices and if they have interest in making any changes after this session.

Follow up ideas

- ➔ Connect this activity with the business model interview for participants to reach out to the companies they felt inspired by and learn more about it.

Tips for facilitators

When the venue allows it, the best way to organize this activity is through going to local markets and supermarkets to look at the real products currently available around us.

When the activity is done in an international context, participants might have different regulations in their countries, give them time to find the specific ones and share with their peers.

19

A circular solution

Participants find alternative solutions to a linear economy product that is problematic, in this case e-waste from smartphones, tablets and laptops.

Competences

- ▲ Core: Lateral Thinking
- △ Technical: Critical understanding of Circular Business Models
- △ Technical: Participative Project Management
- △ Innov-Action: Teamwork and Collaboration

12-30 (Groups of 6)
Aware or Proactive in Circular Economy

90-120 minutes

Working groups

Objectives

- ➔ Find a circular alternative solution keeping in mind the social economic and environmental needs and effects their alternative solution will have
- ➔ Come up with a circular economy business model for this product
- ➔ Come up with a plan to implement and disseminate

- ▶ e-waste for each group to work with
- ▶ Beamer for presentation
- ▶ Phones and laptop for research
- ▶ Reused paper for the roles distribution

Step by step

1. (10') Welcome participants and explain that they will tackle in groups the issue of e-waste from the social, economic and environmental perspectives of the problem in order to find and propose an alternative solution. Divide them into groups of 6, formed by a pair each for the Social, Economic and Environmental aspects.
2. Explain the different parts and the evolution of the activity: 1st - the pairs work alone to talk about their view and approach on the issue, 2nd - each pair comes back to their groups of 6 to discuss what was talked about in the smaller groups, 3rd – the whole group works together on a) finding an alternative/solution, b) coming up with an alternative circular business model and c) plan how to implement and disseminate. At the end of the activity the group must make a 3min (max) presentation to the plenary about their ideas and alternative solution found.
3. (15') Let each pair in the groups work alone to talk about their view and approach on the issue.
4. (10') The pairs get together in their groups of 6 to discuss what was talked about in the smaller groups

5. (30') Continue the conversation inside the groups to:
   a) find alternatives and solutions to the e-waste
   b) come up with an alternative circular business model
   c) plan how to implement and disseminate
6. (15'+) Bring the groups back to plenary and provide the space for each of them to present their process and outcomes. If time allows it, immediate feedback from the others is appreciated. Alternatively, facilitators can choose to hold off questions + feedback until every group has made their presentation. Close the process together with a dialogue about the activity.

Debriefing

- ➔ How important are the social, economic and environmental factors? Is one more important than the others? How do they interconnect?
- ➔ How did you come to thinking about alternatives and solution?
- ➔ What inspired you?
- ➔ Which do you think are the key aspects to a functional and efficient CE business model?
- ➔ Which of the things that you changed/envisioned do you think will have the biggest impact?

Evaluation

Check with participants, as a form of evaluation, what they know now about the different forms of e-waste that you used during the activity.

Follow up ideas

- ➔ To continue working after this activity, you can support participants getting in touch with their municipality about e-waste. When there is a location to take this e-waste, get the group to collect all their e-waste at home and take them to the plant to see how much it is and what can be done with it.

Tips for facilitators

Participants can be encouraged to use their devices for research when they're in pairs, this way they can find solid and truthful data to validate and support their needs in the 3 different areas, as well as checking different CE models to find the one that fits best. On the other hand, when asked to find a solution participants should be encouraged to not use their devices so as to not encounter solutions already available.

More than one person can speak during the presentation and how participants choose to present is up to them. Time is non-negotiable. You can advise to write down the different activity phases with time constraint so participants can see them at all times.

20

Condominium

Welcome to an alternative world where we all live in the same building. Can you share your tasks and responsibilities with the condominium?

Competences

- ▲ Innov-Action: Adaptability and Flexibility
- △ Core: Motivation for Circular Economy
- △ Innov-Action: Activating a Change
- △ Innov-Action: Problem Solving

12-32 (Groups of 4-5)

60-90 minutes

Role play / Simulation

Objectives

- ➔ Identify ways to share items and property inside communities.
- ➔ Learn about ways to diminish waste and consumption.
- ➔ Find ways to increase personal and collective well-being.

- ▶ Whiteboards
- ▶ Markers

Step by step

1. (5') Welcome participants and explain that they are going to travel to an alternative world where they all live in the same building. Get from the group the first impressions and creative ideas about what that means before you go forward.
2. (10') Divide participants in groups of 4-5 and ask them, before the trip, to share about their real life day-to-day activities within their group, looking for similarities, common needs and issues they face. Give them the cue to think at least about personal items, tools, vehicles, hobbies, knowledge and time.
3. (25') Call the attention of the groups to go forward to the next part of the session. Groups are entering the alternative world and live in the same building. During the next 25 minutes, the objective of each group is to find solutions to share the limited resources that they have, which they were sharing in the previous brainstorming. Results are shared in a 3 min presentation.
4. The aim is to increase personal and collective well-being. For this there are two main factors: 1. Diminish waste, and 2. Consume the least possible copies of the same items.

5. Explain to the groups before starting this second phase that waste is not just trash or physical materials going to a landfill, also time, wellbeing, energy and money can be used inefficiently in linear economy.
6. After having discussed this as a group, participants are asked to make a visual of their solutions and proposals to present to the others in less than 3 minutes.
7. (15'+) Bring the groups back to plenary and provide the space for each of them to present their process and outcomes. Collect together the diverse proposals and ideas, giving the space for participants in the end to comment and add information. Close the process together with a dialogue about the activity.

Debriefing

- ➔ Which linear economy products make my day-to-day inefficient? What does this cause in me and my surroundings (physical wellbeing, psychological wellbeing, relationships, financial stability, etc.)? What is the root of the inefficacy?
- ➔ How does having support and help from other people benefit me, my surroundings, the eco-system? What do I get from this exchange that is not material?
- ➔ How did you feel when you were making a plan? What helped you create a connection and build trust with the other in finding a solution? Did you feel like you needed to be reassured, if you were skeptical why is that? Did something change your distrust? What was it?
- ➔ How do you feel about implementing this in your everyday lives?

Evaluation

As a form of evaluation, ask the group to think about what they can personally change about their routine that would benefit them and be circular at the same time. Did they select some of the activity decisions? Were the proposals realistic and achievable?

Follow up ideas

- ➔ Go to a study visit. Get in touch with co-housings, co-workings, intentional communities or eco villages around your city or region to witness and experience communal living practice that are sustainable and embrace CE models. Take with you the Condominium ideas and get the inspiration from the real life ones to start building plans with the group to shift their practices to more circular ones

Tips for facilitators

The group discussion can connect the concept of the Condominium alternative world to how cities, regions, countries and continents interact in our planet.

Encourage participants to actively listen to each other, empathizing and seeking out together what can be the root of an issue and which elements can bring about a functional solution.

21

Urupia

Participants discuss and choose a sustainable source of power for their community through consensus, if they are able to reach it.

Competences

- ▲ Innov-Action: Adaptability and Flexibility
- △ Technical: Critical understanding of Sustainability
- △ Innov-Action: Assertive and empathic communication
- △ Innov-Action: Working in complex environments and situations

4-40

60 minutes

Roleplay / Simulation

Objectives

- ➔ Learn sustainable and durable solutions to everyday needs
- ➔ Learn about healthy and constructive communication
- ➔ Gain flexibility and problem solving when confronted with conflicting needs

- ▶ Recycled cardboard and markers
- ▶ Speakers for music
- ▶ Papers with roles
- ▶ Roles and energies handouts on page 107

Step by step

1. Preparation: Before starting, get one recycled cardboard for each participant and draw on the back of each a symbol so later on participants can be grouped together.

   E.g.: If you prepare 5xA, 5xB, 5xC and 5xD you will have 4 groups of 5 participants

2. (15') Welcome participants in the circle and give a cardboard and a marker to each of them. The group will listen to songs and react by drawing a picture of their ideal community, with each element that is important to them, and connected to Circular Economy, from a bird's eye view. Each time the song changes participants pass their initial cardboard clockwise to next participant who will continue the drawing. End the activity when pictures have a good level of detail.
3. (10') Share with participants the symbols behind the drawing and let them come into groups where they share a broad idea of the picture they finalised.
4. (5') Ask each group to decide on a spokesperson and give members of each group

a piece of paper with a written role. Give them access to the Sustainable Energies chart and introduce that they have 15 minutes to decide as a community consensus the energy power source that they will bring to their community.

5. (15') While groups choose on which power plant invest, show your availability and check with the groups how their process towards consensus is going.
6. (15') As group work stops, make a big circle in which each spokesperson shares their group's choice with the rest of the participants. Give space for participants comments on the decisions and move towards a group debriefing.

Debriefing

➔ How was your ideal sustainable community? Did you have any real life example in mind?

➔ How was the decision making process to choose your energy plant? Why we use majority more than consensus for collective decisions?

Evaluation

To evaluate the process, ask participants about their consensus decision process, and how possible that way of decision making is.

Show the different sources of energy and get participants to share how much they knew about each of them.

Follow up ideas

➔ Learning about sustainable energy sources can continue with more detailed research on the different forms, where they are implemented and the impact they have on our societies and ecosystems.

Tips for facilitators

The activity would be best if done in a natural and quiet environment like in a park where the participants are fully immersed and present with all their senses, with no distractions.

The roles for discussion can take away focus from the process and into the role itself. Feel free to change the roles or let participants be themselves in that community.

Participants might want to get back the cardboard they originally started, after the consensus process, let them get back their drawing and how it was finalised.

Adaptation of method created during CESCY Training of Youth Workers

Authors: Bruno Lisboa Diotallévy - Elke Burghoorn - Gaia Ciccarelli - Giovana Barbieri

22

YES, NO, MAYBE?

Sometimes the words Yes, No, and Maybe are the biggest conversation blockers. To build a solid and effective communication, argumentation is the best foundation.

Competences

- ▲ Innov-Action: Assertive and empathic communication
- △ Innov-Action: Adaptability and Flexibility
- △ Innov-Action: Problem Solving
- △ Innov-Action: Working in complex environments and situations

8-30

45 minutes

Debate and Public Speaking

Objectives

- ➔ Develop assertive, effective and adaptive communication;
- ➔ Develop the capacity of argumentation and adaptation of the speech to each situation in order to better convey the message.

- ▶ Questions previously prepared.

Step by step

1. (15') Preparation: Prepare in advance the questions you will show, which can be related to the theme of communication or other topics, such as sustainability.
2. (10') Welcome the group and share with them the challenge. Small groups will receive questions that each participant needs to answer. The only condition, they can never use the words "Yes," "No," "Maybe" as an answer.
3. (15') Divide into groups and give a set of questions to each group. Have one of them asking to the next one. Whenever the interviewed participant says one of the forbidden words, they get the questions and start asking to the next person. With this dynamic the group will be obliged to formulate more constructive and complete responses.
4. (10') After a first round, ask the group to change the direction of the questions and for each participant to prepare a question with one or two follow up ones to continue into a conversation by adding other issues that seem pertinent in order to make the challenge greater. Have some questions ready if people get stuck.

5. (10') Bring the group together after the two sets of questions in groups and ask them about the feeling and what happened during their activity. Connect the debriefing asking about how some answers continue and others stop a conversation limiting our thinking or sharing opinions.

Debriefing

- ➔ What are the most important competences to have a good level of argument? Creativity? Impromptu? General knowledge? Critical sense?
- ➔ What are the greatest difficulties experienced throughout the activity?
- ➔ What tools do you consider important to overcome the difficulties you felt?

Evaluation

To evaluate the process, come back to the initial argument of the activity asking participants: do you now consider that the words Yes, No and Maybe can block possible conversations? Get ideas from the group about what supports a communication to advance and what blocks it.

Follow up ideas

- ➔ You can close the process with a question about sustainability and climate crisis. Ask participants what answers stop those conversations and what possible questions can continue forward. Take note of these answers, which you can use in a follow up activity about argumenting for sustainability.
- ➔ Organize a follow up activity with the group that continues tackling communication in any of these three directions: focused on the topics of sustainability and circular economy, bridging from verbal to non verbal communication, shifting from public speaking to group debates.

Tips for facilitators

When participants feel they fail or could have done it better, give a new opportunity so that they do not feel frustrated;

To put sub-questions within the same question, in order to further develop the themes;

For example, give some inputs, suggesting that they find some synonyms of the forbidden words;

Promote the debate whenever it is considered relevant to promote a space for sharing ideas and opinions.

23 (UN)FOLD YOUR COMMUNICATION

Do you think you can communicate easily, and others understand your message? Fold the paper and and check your competences!

Competences

- ▲ Innov-Action: Assertive and empathic communication
- △ Technical: Design Thinking
- △ Innov-Action: Problem Solving

8-30 people

45 minutes

Debate and Public Speaking

Objectives

- ➔ Develop assertive, effective and adaptive communication;
- ➔ Understand that different people interpret the same instructions in different ways so the same message can be perceived in several ways;
- ➔ Reflect together on possible solutions to make communication more effective.

- ▶ Recycled paper of the same size for each participant

Step by step

1. (10') Welcome participants and give a piece of paper of the same size to each one of them. Introduce that we will be working on their communication and that for the first activity we would need a volunteer to start the process. Hint that the activity will be about effective communication and being understood.
2. (5') Once a volunteer comes up, explain that everybody will be with their back to her, who will also be with her back to the group. Without visual contact, the volunteer will fold the sheet and simultaneously report what she is doing, step by step, so that the other participants follow her instructions and fold their paper as equally as possible. The only person who can speak is the volunteer sharing the instructions to fold the paper, so no questions or comments for clarification are allowed from the group. The volunteer is the one who decides when the activity ends, indicating when she has finished folding the paper. After introducing the activity, give time for participants to ask any questions for clarification about the rules and start the activity.

3. (15') Start the activity with the first volunteer. Once she finished, ask all participants to raise their paper so that the whole group can get an overview of the outcome of each one and they can compare their creations with the original paper that gave the instructions. Spend a couple of minutes for fast feedback on the challenges and needs of the participants before you invite another volunteer to repeat the activity. Do this a couple of times.
4. (15') Bring the group back together. Starting from the volunteers, give space to share how they felt during the process, continue with the group of participants. Have a look at the different foldings and take notes of what supported and what made communication difficult.

Debriefing

- ➔ How did you experience the process as message sender? And as receiver?
- ➔ If you had the power to change any rule of the activity, would you? Which? Why?
- ➔ How many times in a conversation are we, instead of hearing to the end what the other person has to say, thinking about what we're going to respond? Does this impact on what we understand of what the other person is saying?

Evaluation

Often, in a conversation, we are more concerned with what we will say than with what the other person will understand. We do not remember that different people interpret the same thing in different ways, which is the importance of empathy. Ask the group in which ways they adapt their communication to the person listening to them.

Follow up ideas

- ➔ Once the group experiences the importance of providing a clear and detailed message, you can continue working on assertive and empathic communication for circular economy and sustainability, finding ways to deliver a clear message and forms to adapt it to different audiences.

Tips for facilitators

As the group and the volunteer will not be looking at each other, make sure you make the activity in a room with no noise. Having difficulties understanding what the volunteer is saying will create different problems and frustrations in the workshop than the ones intended.

24 Policy for circular economy competences

Participants become acquainted with the concepts of policy, advocacy and stakeholders, familiar with stakeholder mapping, develop circular economy recommendations.

Competences

- ▲ Innov-Action: Activating a Change
- △ Technical: Participative Project Management
- △ Technical: Critical understanding of Circular Economy

12-24 peope

100 minutes

Working groups

Objectives

- ➔ Understand the concepts of policy, advocacy and stakeholders
- ➔ Engage participants in policy recommendations brainstorming
- ➔ Create a document that shares the perspective for circular societies

- ▶ 4 witheboards or recycled flipcharts for definitions of policy, advocacy, stakeholders a the stakeholder mapping chart on page 108
- ▶ 4 paper tablecloth with questions for discussion, on page 109
- ▶ Markers and sticky notes

Step by step

1. Preparation (20') Prepare the space with 4 tables with the paper tablecloth with questions written and the whiteboard and 3 posters with the definitions and the stakeholders mapping. Cover with paper or cloth the definitions to reveal them after the brainstorming. If the group is big, put more tables with the same questions in a way that when people go clockwise they reach a different question from the previous ones.
2. (5') Welcome the group and introduce that we will be working on policy, advocacy and stakeholders.
3. (15') Show one by one each of the whiteboards with a definition starting with policy. Keep the title visible and space for participants to write their ideas, and hide the definition that you prepared. Ask participants how they would define policy, take note of participants answers and main keywords and show them your definition. Ask for agreement and if they would make any changes in the definition after their input. Repeat with the advocacy and stakeholders definitions.
4. (10') After the three definitions are visible. Ask participants to share examples on sticky notes of different stakeholders that we can add to the whiteboard. When diverse examples are shown, introduce the 4th whiteboard with the stakeholder mapping chart. Present the stakeholder mapping chart and ask participants where they would place the stakeholders mentioned before, moving the respective sticky notes to the chart.

5. (40') Divide participants into groups of 4-6, each one on a different table with a paper tablecloth ready with questions and markers for them to write on. Choose in each team a facilitator and a spokesperson. Facilitator will support taking notes on the paper, and the spokesperson will present the conclusions to the rest of the groups at the end of the activity. Each group has 10 minutes to discuss the questions at their table and to write their answers, ideas and comments on the paper. Stop every group after 10 minutes and ask all members except facilitator and spokesperson to move clockwise to the next group. Spokersperson introduces the previous discussion to the new group and together they continue writing on the paper. After 10 more minutes, the group moves again. Repeat the process 4 times, so all participants moving go through the 4 sets of questions.
6. (5') Give 5 minutes after the four rounds for participants to prepare a short presentation of the outcomes at their table focusing on the most meaningful outcomes for the rest of the groups.
7. (15') Back to plenary, get the spokesperson from each table show the paper and introduce the outcomes of the conversation. Give space for the group to ask for clarifications and to make short contributions.
8. (10') After the presentations, invite participants to reflect on the competences that they acquired and developed during this activity. Ask for some examples and continue the conversation on how they can apply these competences in their communities and to address the issues discussed in groups.

Debriefing

- ➔ How do you feel in relation to this activity?
- ➔ What have you learnt related to policy, advocacy and stakeholders mapping?
- ➔ What is needed to bring policy changes to our local communities?
- ➔ Do you foresee any challenges in this regard? Can you think of possible solutions?

Evaluation

Get from the group, as a form of evaluation, an overview of their interest in lobbying and advocacy for circular economy and sustainability in their communities. Check if they feel confident and prepared, or if more work on the process, the theme or their personal competences would be required.

Follow up ideas

After this introductory activity, there are three possible directions to continue working:

- ➔ Participants individually map relevant stakeholders in their own community as a first step to implement an action.
- ➔ The group hosts a similar workshop to consult neighbours in their respective communities
- ➔ The group goes to some of the identified stakeholders to advocate for circular economy and sustainable practices

Tips for facilitators

If participants are from different communities, countries or backgrounds, it is likely that they will disagree on where to place the different stakeholders on the chart. Encourage discussions in this regard and highlight how the situations can vary a lot from one place to another and that the stakeholders' levels of influence and support also evolve with time. Have at hand the CESCY competences to support participants' final reflection on what they learnt.

3. Energyzers

Engaging learners in non formal learning activities requires their involvement. At times the group might feel tired or disconnected. In the following boxes we share a series of energyzers that you can incorporate to those you already use to support the group coming back on track and active.

1-duck-2-feet-QUACK!

In this energyzer the group will describe and count imaginary ducks, counting as many ducks as possible, as well as their number of feet, going in a circle without making any mistakes.

Join participants in a circle standing up. If there are more than 3 facilitators in

the team, it would be ideal that 2 are next to each other with one of them beginning the energizer.

Ask participants which is the sound a duck makes, so all of them can repeat it out loud. Explain to participants that we will all go around in a circle counting ducks and their number of feet by saying one word at a time per person. If somebody makes a mistake or takes too long to respond the whole circle screams QUAAAAAACK! And the person who failed starts again. After a couple of rounds the group will reach further

than they imagined. How many ducks will you count?

This is the order of words:

Number of ducks	DUCK	Number of feet	FEET	Duck sound for every duck present

An example for the first rounds would be:

ONE - DUCK - TWO - FEET - QUACK! - TWO - DUCKS - FOUR - FEET - QUACK! - CUACK! - THREE...

The untouchable touch

In this energyzer the group will connect with each other, without touching!

Join participants in a circle and provide one marker to everyone in the group. Hold each marker together with the people at your sides, so through the markers you create a closed and connected circle. Once all of you are connected through the markers, start complicating the process in different creative ways: Start some music and dance with your arms so the group waves up and down, go from sitting to standing position, say outloud one colour, so markers of that colour are elevated or move to touch each other... what other challenges can you add?

https://www.youtube.com/watch?v=8Xj_w8yb1vE

Alien-Tiger-Cow

With this energyzer, the group becomes one.

Join participants and introduce that there are three roles and each person needs to secretly choose one to act simultaneously on the count of 3. If the complete group chose the same role, you can celebrate success, if not, choose again secretly and try again. The goal is for everyone to become the same character. How many rounds will you need?

The roles:

- ALIEN: they hold their fingers up to their head like an antennae and say "Bleep, bleep, bleep"
- TIGER: they throw their hands out like claws and say "Roooar!"
- COW: they put their hands on their tummies with fingers sticking out (like utters) and say "Mooo"

The equilateral triangle

With this energyzer, mathematical competence is put into physical practice.

Ask participants what an equilateral triangle is. After reaching the definition of an equal sided triangle, you can show an example of how 3 people can position themselves as such. After this introduction, ask each participant to secretly think about two people, person A and person B. When you say Go!, participants need to move so they form an equal-sided triangle with those two secret people.

The group might be moving across each other for a long time or find a balance point where everyone stops moving. If they don't find it, ask the group to stop and check who was with whom.

You can further use this activity to introduce systems thinking, looking at the different interconnections in the group. Once everyone is stopped, ask one person to move so the group sees who else moves as a consequence, how much the system needs to change due to a small move.

1, 2, 3 - clap up touch

With this energyzer, a simple task will wake up our minds

Join participants and ask them to find a pair and position in front of each other with enough space of separation with other pairs. Provide the first task for the pair. In alternative order, they need to start counting 1 - 2 - 3 and repeat. Give time for each pair to practice few times and reach a certain speed, then interrupt the process to provide the second task. In this case, they will have the same task, where instead of 1 they need to clap, 2 and 3 remain the same. After a while, interrupt for the next task, giving an alternative to replace number 2, this can be a movement again or a sound, as the truck horn. Continue until you stop the group a last time to replace 3, you can give another movement or sound, and you can also let them choose together. What came out from your initial 1 - 2 - 3?

https://www.youtube.com/watch?v=vRr8Ff-ujEU

Rock-Scissors-Paper fan club

In this energyzer, the famous rock, scissors, paper game gets more fans it ever did.

Join participants and introduce the traditional Rock-Scissors-Paper game. If anyone doesn't know it yet, explain it to them with an example between two participants. After this is clear, explain that we will play the game in the room, each one of us finding an opponent and playing best of three. If you win, you should celebrate success. And if you lose.. Celebrate too!

As you lose the battle, you automatically become the biggest fan of the person who just beat you, and celebrate their success. After each battle, the loser will follow the winner for a next battle. With each won battle, winners will accumulate fans. Losers, as soon as they've noticed they are not the winner instead of focusing on the loss they should cheer for their opponent and follow them as they go against other participants. The energyzer will reach a point where there are only two contestants left, all of them with their big fan clubs.

Who will the group cheer for?

4. The Learn & Hack

The Learn&Hack is an immersed learning experience in which 20-30 participants intensively work together on circularity challenges over a period of 5 days. It is a pressure cooker event in which most of the workshops that you find in this manual can be combined.

Aim of the training

The objectives of Learn & Hack are as follows:

- ➔ Learn about circular economy and related topics from field experts featuring guest speakers, and through Q&A sessions.
- ➔ Learn from peers through sharing and non-formal education methods.
- ➔ Work together in an international team through solving a real business challenge.

Defining a Challenge

Through challenge-based learning, participants gain knowledge and experience by applying CE theory to a real-life circularity challenge. Defining these challenges is part of the preparation for the hackathon and can be a time-consuming activity. Finding a local entrepreneur, community or municipality that is facing a circularity challenge and has the time to participate in the hackathon is a challenge in itself. However, it will contribute a lot to the learning experience of the participants if you can find a challenge owner that actually benefits from the challenge being solved.

Some criteria that you can take into account when you are defining a challenge:

➔ Not too broad, not too specific.

A challenge like: *redesign the waste management system for city X* is too much to handle for a 5 day event. Keep in mind that the participants have probably never worked with each other before. They will need some time to get on the same page. The challenge should provide direction to the team instead of scattering it in different directions.

On the other hand, a challenge like: *optimize the production process for company Y* is too specific. It may require detailed knowledge that the participants lack and it's losing the connection to the circular economy learning objectives.

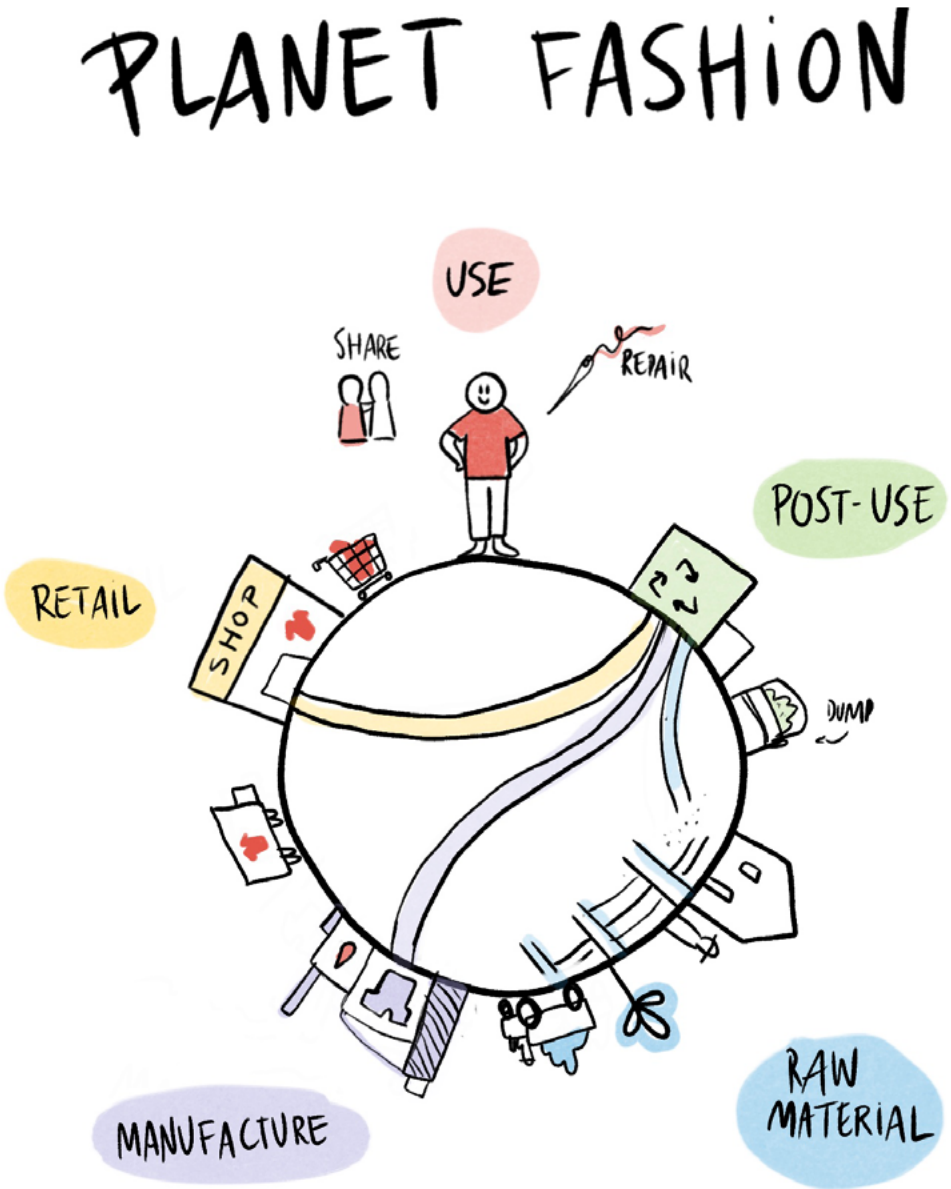
➔ Multilevel and multidisciplinary

See if you can frame your challenge in such a way that participants from different backgrounds get to work with each other. Next to the environmental aspect, most actors in the circular economy are struggling with closing a business model or changing people's behavior. Besides, designers and engineers can also bring valuable skills and perspectives to the table.

Next to different disciplines, see if you can find participants from different educational levels. The concept of circular economy mostly resonates with students from higher education, but it is relevant for all of us. Besides, recruiting students from vocational education and training will improve the learning process for all participants. It will help to get out of the 'academic bubble' and translate ideas to action.

TIP: when recruiting students, make your question specific. Don't say 'Unleash your potential as a circular change maker' (works for academics), but recruit on challenge level. Say "I am going to create a circular washing machine, would you like to help me take this old one into pieces?"

Keep in mind that the hackathon is meant as a learning experience, rather than a consulting service. During the event, the teams will start by ripping the challenge brief and questioning the questions behind the questions. The goal is that they end up with a challenge definition that every team member understands and that they can work on for the rest of the event. This might deviate from the challenge as it was proposed by the challenger. However, the challenger should be available to the team for a Q&A session in order for the participants to gain a better understanding of the subject.



▶ **Additional resources:** Challenge template and examples (Appendix I)

Setting Up a Team

Now that you have defined your circular challenges you can start recruiting participants. The target group for the hackathon can be characterized as young impact makers. The majority is enrolled in higher education with a focus on environment and sustainability studies. However, the topic of circular economy is getting more and more attention and is relevant to many different disciplines. As mentioned before, recruiting youth outside of academics requires another narrative, but also offline rather than online recruiting channels.

Based on their motivation, we advise you to select up to 30 participants. This to ensure an environment in which all participants get to know each other throughout the event. For the teams working on challenges, we advise a team size of 4-6 people. Each team will be facilitated by a mentor. Preferably this is someone that has been through the process of a hackathon before. The role of the mentor is to manage the group dynamics, facilitate the creative process and support the team in their practical needs. A more detailed description about the mentor's role can be found in the attached Mentor's Manual, along with some tools that support the mentoring process.

Rather than selecting the teams up front, we suggest letting the teams form organically on the first day of the event. You can facilitate this through a bee hive session:

- Start by preparing different tables for each of the challenges. Each table is accompanied by a challenge hand-out and the mentor, who has a bit more inside information about the challenge.
- Let the participants walk around the different tables, asking questions and discussing the challenge for 20-30 mins.
- Participants make a choice by taking a seat at the desired table. If more than 6 people join one table, create two parallel teams. If less than 4 people join a table, ask the group if more people want to join this team.

▶ **Additional resources:** Mentors Manual (Appendix II)

PPP

PPP stands for Progress, Problems and Plans. We advise to have a daily check-in with the challenge teams to understand their PPP:

- What has been the progress?
- What problems are they facing?
- What are their plans until the next PPP?
- If possible, support the teams in their problems and help to solve them.

Creating a Prototype

During the training participants should aim to create a prototype of their solution. It can be just in the shape of mockups or pictures. The goal is to actually show in an easy way how the solution would potentially and theoretically look like.

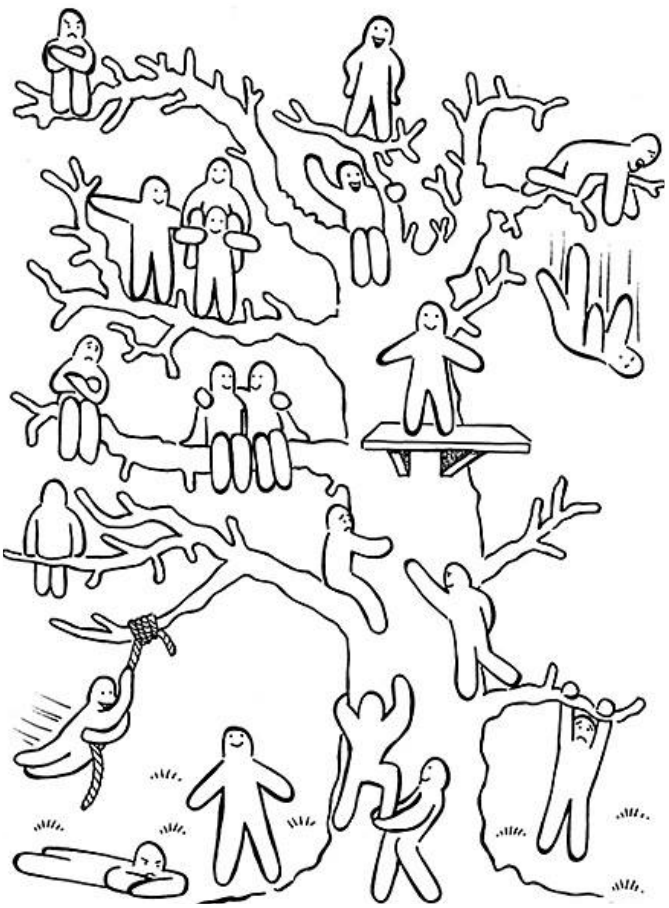
In addition, we advise to encourage participants to also carry out little user research - interviews or survey with potential users to understand their current problems and potential readiness of the proposed solution.

Reflection Groups

In order to support the learning process and the whole experience of the training event we propose to have at the end of day reflection groups. Participants are divided into groups where ideally they are with people from other challenges. That way participants might feel more open to share and explore their team dynamics and how they feel in the team. The mentors can form their own reflection group.

We advise to have a reflection group at the end of 2nd, 3rd and 4th day. First time there can be an organiser supporting the group, but for the rest it can be self-facilitated by the participants regarding the style and duration of it.

As for the methods, it can be just a safe space for participants to share, but also there can be a guiding question or some kind of a reflection method proposed.



▶ *In the image you can see an example of a reflection method. The goal is to reflect on the day and find a person on the tree reflecting feelings accompanied with an explanation.*

Parking Lot / Open Space

Parking Lot and Open Space Technology are two methods where the content is created by the participants and organisers on spot.

Parking Lot is a space (for example a flipchart on a wall) where participants can write throughout the training until the workshop happens topics that they would like to elaborate and discuss more in depth. For example, these topics could be about degrowth, capitalism, bioeconomy, etc. They depend fully on the participants. Once the workshop time arrives divide participants into groups by their interest and let them discuss, share their thoughts and points of views. At the end, leave around 20 minutes for sharing the outcomes and main points of the discussions.

Open Space is a co-created method with participants. It's a space where participants can offer discussion and mini-workshop topics of their expertise. Usually there's interest among 4-6 participants who propose a topic.

We advise to keep the content provided around 20 minutes. Participants prepare on their own what they want to provide for others. The format is up to them to decide if they want to present and/or discuss something.

Final Presentations

On the last day participants present their solutions for the challenges they had been working on. It's important to invite also challengers to the presentations so they could give feedback, ask questions and if wanted, establish a cooperation with the participants.

Each team can have for example 5 minutes to present their work and 3 minutes for Q&A. We advise not to choose a winner as this can have a negative effect and cancel out the positive learning experience.

Programme

Here we propose a flow (see picture) of these workshops that support the development of circular competences and pave the way to make actual impact. This event was carried out twice following this flow.

<table>
<tr><td rowspan="2">Date & Time</td><td>1st</td><td>2nd</td><td>3rd</td><td>4th</td><td>5th</td><td>6th</td><td>7th</td></tr>
<tr><td>TUESDAY</td><td>WEDNESDAY</td><td>THURSDAY</td><td>FRIDAY</td><td>SATURDAY</td><td>SUNDAY</td><td>MONDAY</td></tr>
<tr><td>9:00</td><td rowspan="19">Arrival</td><td></td><td>Intro to the day</td><td>Intro to the day</td><td>Intro to the day</td><td>Intro to the day</td><td rowspan="21">Departures</td></tr>
<tr><td>9:30</td><td rowspan="3">Opening of Learn & Hack</td><td rowspan="3">Workshop "Systems Thinking"</td><td rowspan="3">Speakers and Panel Discussion</td><td rowspan="3">Open Space Technology</td><td rowspan="5">Independent work time</td></tr>
<tr><td>10:00</td></tr>
<tr><td>10:30</td></tr>
<tr><td>11:00</td><td>Break</td><td>Break</td><td>Break</td><td>Break</td></tr>
<tr><td>11:30</td><td rowspan="3">Workshop "Introduction to Circular Economy"</td><td rowspan="3">Workshop "Change Management"</td><td rowspan="3">Workshop "Circular Business Models"</td><td rowspan="3">Workshop</td></tr>
<tr><td>12:00</td></tr>
<tr><td>12:30</td></tr>
<tr><td>13:00</td><td rowspan="3">Lunch</td><td rowspan="2">Lunch</td><td rowspan="3">Lunch</td><td rowspan="3">Lunch</td></tr>
<tr><td>13:30</td></tr>
<tr><td>14:00</td><td rowspan="6">Field Trip: a circular company visit</td></tr>
<tr><td>14:30</td><td rowspan="2">Workshop "Pitching 101"</td><td rowspan="2">Final presentations</td></tr>
<tr><td>15:00</td><td rowspan="3">Workshop "Design Thinking"</td><td rowspan="3">Workshop</td></tr>
<tr><td>15:30</td><td rowspan="4">Independent group work</td></tr>
<tr><td>16:00</td><td>Break</td></tr>
<tr><td>16:30</td><td>Break</td><td>Break</td><td rowspan="3">Workshop "Future Engagement"</td></tr>
<tr><td>17:00</td><td rowspan="3">Introduction to challenges</td><td rowspan="3">Independent group work</td></tr>
<tr><td>17:30</td></tr>
<tr><td>18:00</td><td rowspan="2">L&H evaluation and closing</td></tr>
<tr><td>18:30</td><td>Reflection of the day</td><td>Reflection of the day</td><td>Reflection of the day</td><td>Reflection of the day</td></tr>
<tr><td>19:00</td><td rowspan="5">Welcoming snacks and opening night</td><td>Dinner</td><td>Dinner</td><td>Dinner</td><td>Dinner</td><td rowspan="3">Dinner</td></tr>
<tr><td>19:30</td></tr>
<tr><td>20:00</td><td rowspan="3">Optional: teams get to know</td><td rowspan="3">Optional: group work</td><td rowspan="3">Optional: group work</td><td rowspan="3">Optional: group work</td></tr>
<tr><td>20:30</td></tr>
<tr><td>21:00</td></tr>
</table>

Appendix I. Challenge Template

[Name of the challenge]	
Challenger:	**Theme or sector:**
Describe the challenge in one sentence:	
Define 3-5 components of the challenge: ➔ ... ➔ ... ➔ ...	
Background information	

The Olive Challenge

Challenger:	**Theme or sector:**
Ferreira do Alentejo	Food

Describe the challenge in one sentence or question:

Identify circular solutions for the production of olive oils

Define 3-5 components of the challenge:

- ➔ How can olive trees be cultivated in a regenerative manner?
- ➔ What are possible applications of olive pomace and stones?
- ➔ How can these applications be integrated in the manufacturing process?

Background information

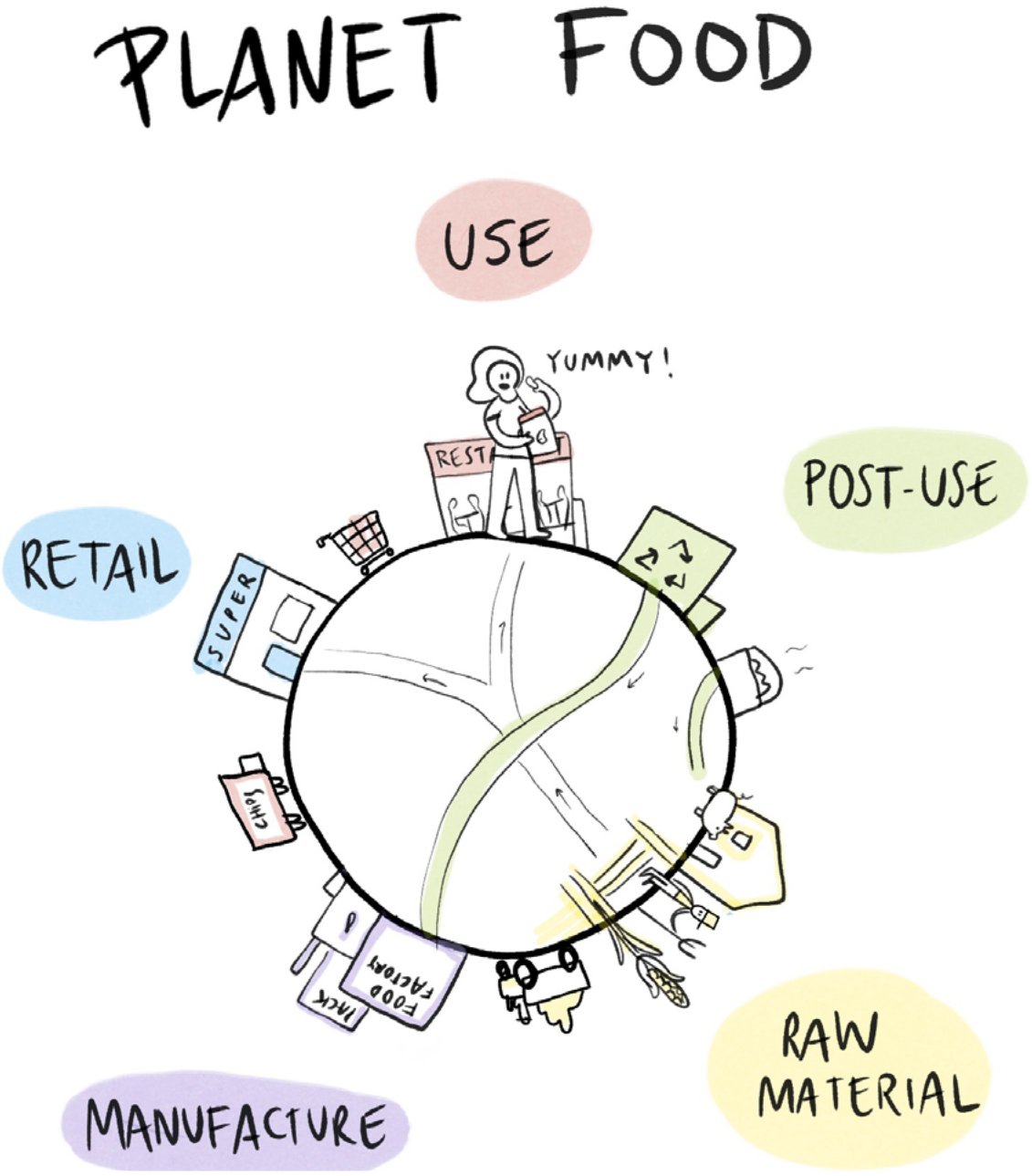
Ferreira do Alentejo is the capital of Olive Oil Production in Portugal. For the past 10 years many farmers have been planting monoculture super intensive olive tree groves (olivais super intensivos). And now all these trees are reaching their full production. This leads to a situation that is not sustainable for the region. Since there is a huge amount of olive pomace (bagaço da azeitona) that is just being incinerated. This incineration creates a lot of undesirable gases that spread for many Km and negatively affect the life of many people.

There are at least three factories working (Fortes, Aggraria, Alvito) and you can see some media buzz:

1. www.pan.com.pt/em-fortes-novos-vive-se-com-o-lixo-do-lixo/
2. www.sulinformacao.pt/2018/06/qualidade-do-ar-junto-as-fabricas-de-bagaco-de-azeitona-de-ferreira-e-alvito-deve-ser-monitorizada/
3. https://diariodoalentejo.pt/pt/noticias/10082/poluicao-das-fabricas-de-bagaco-voltou-ao-parlamento.aspx

Olive pomace (bagaço da azeitona) is just being burnt because it's the easy way to deal with it. But there are many other options than can be much more sustainable and circular and that can be of economic interest also.

The Take-Back Challenge	
Challenger: United to Remake X Re:Costura	**Theme or sector:** Fashion 
Describe the challenge in one sentence or question: Design a reliable circular process of recovering used clothes.	
Define 3-5 components of the challenge: Poor quality of materials: a big slice of the clothing going to waste is coming from fast fashion. Lack of appropriate selective collection, dismantling processes and used fabric treatment. Having enough of the same material to produce in a medium scale. Making upcycled products appealing to the consumer, since it still carries a lot of stigmas.	
Background information In Portugal, around 200 thousand tons of textile waste are thrown away per year. The percentage of waste that is sent for recycling and reuse is still not done under the conditions that it should be. However, the new Directive (EU) 2018/851, published on May 30, 2018, established mandatory deadlines for the selective collection of textile waste to be implemented on January 1, 2025. With the publication of this directive, the implementation of selective collection systems for textile waste is foreseen by the urban waste management systems, or by the municipalities that integrate them. From then on, textiles sent as waste will, whenever possible, be prepared for reuse and recycling. Until now, the upcycling potential of these resources has remained unexplored.	



Setting the challenges for the Hackathon groups is an important first step that will shape the direction of the event. At CESCY we wanted to focus on the main problems for sustainability: Food, Waste and Fashion. From there we connected with companies and organizations that shared their real challenges.

Appendix II. Mentors Manual

During the Learn&Hack you will get to participate in several workshops about circular economy and circular business models; design, systems and visual thinking. There will also be a company visit and a panel discussion. You can freshen your memory about your knowledge and use this to mentor the teams. As they say, teaching is the best learning format. In this manual you will find a description of your role as a mentor, a day-by-day schedule of the event and optional tools that you can use in facilitating the team.

Role Description

Although you can provide factual information when necessary, your job as a mentor is to interfere with the content of the discussion as little as possible. You can ask direct questions, but you let the team make decisions on what directions they want to go at any time.

Your role includes three main tasks:

4. **Manage group dynamics**

   This is probably the most important part. Make sure that people are listening to one another, that everybody gets to speak up and that no one is dominating with their opinion. Feel free to interrupt when someone has made their point and keeps on talking. First allow other people to react on what has been said before moving on to a new topic. To facilitate this, you could use the Finger Rules (see chapter 3).

5. **Facilitate creative process**

   The world cannot be saved in 5 days, but some promising ideas may pop up. Try to harvest as much of these as possible by writing them down on post-it or drawing them out. There is no time for elaborate reporting so try to be creative in visualizing the creative process of the team. If you notice that the team gets stuck, let them go out for a walk or try a different brainstorming technique (see chapter 3).

6. **Support the team in their needs**

   This is the practical side. Assist the team with technical issues and make sure that there are enough materials available during the workshops. In case something is missing or going wrong, you are the point of contact for the team.

We expect that you:

- ➔ Participate in the workshops with the challenge teams.
- ➔ Facilitate the teams during the independent group work.
- ➔ Be part of the mentor's team. This means checking in with the other mentors at the end of the day to reflect on your experiences.

The schedule

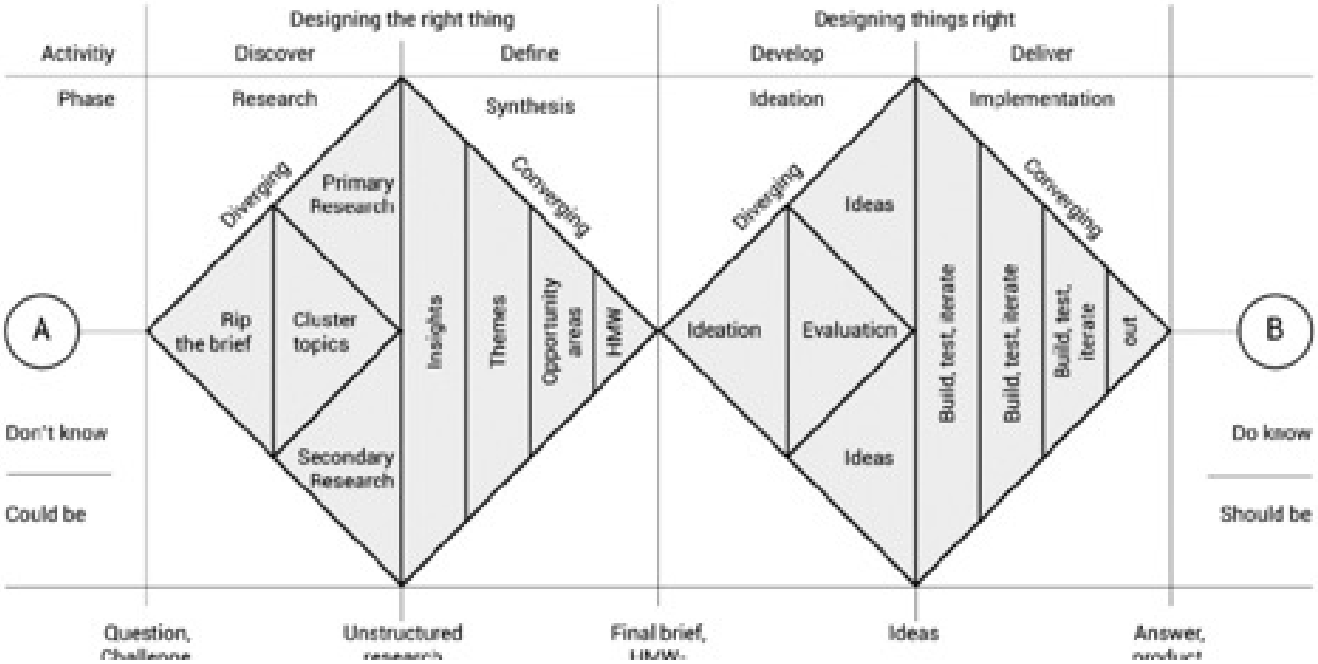
Please note that the agenda might change during the event. We want to include some flexibility to adjust the program to the needs of the participants. You are our eyes and ears for these needs. In case you notice that your team needs more knowledge on a particular topic, or an active listening workshop to better communicate with each other, please let us know.

DAY 1: Arrival

No additional role as mentor. Just be yourself.

DAY 2: Discover and Define

This is the first day of the event. The teams will be introduced around 3pm. Until then you have no active role as a mentor. You can join the workshops as a participant or do other work as you wish. Besides getting to know the teams, the main goal of this day is to get a clear understanding of what the challenge is about. To achieve this, we will guide the participants through the first cycle of the Double Diamond framework (see Figure 1) during the design thinking workshop.



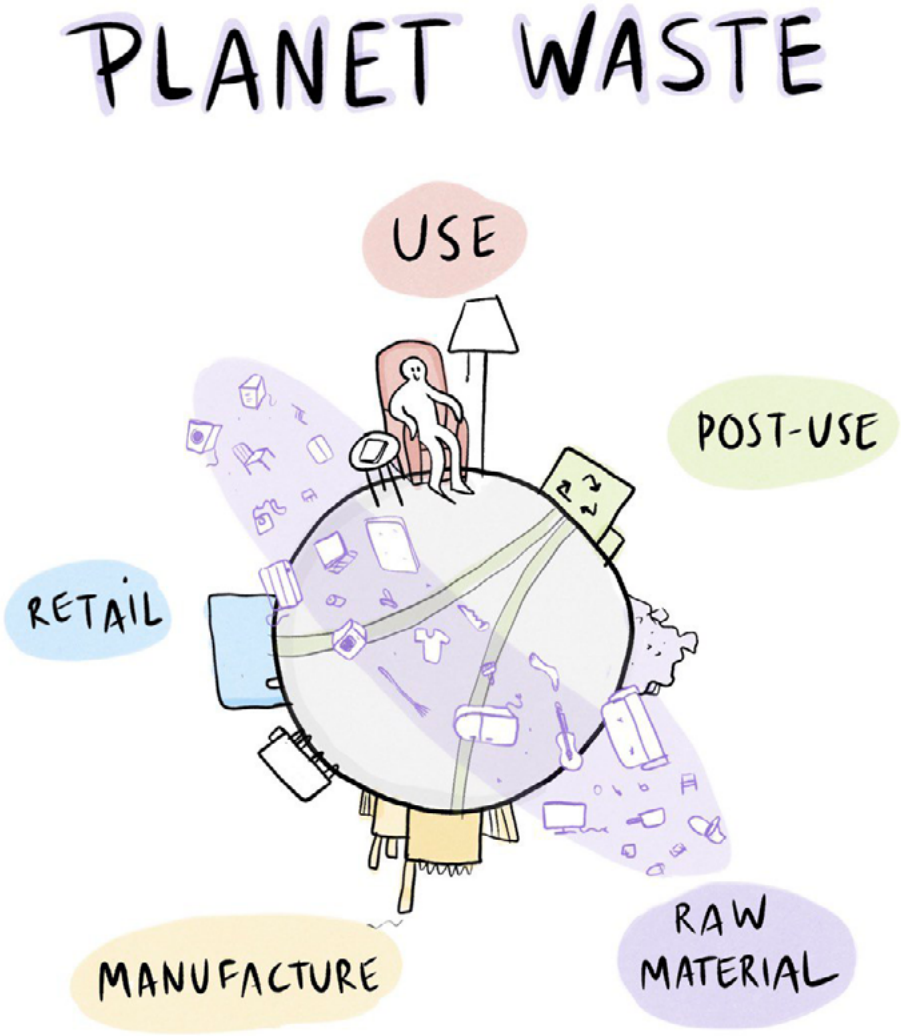
▶ *Figure 1. Revamped Double Diamond framework (Nessler, 2016)*

Discover

The first step is to "Rip the Brief". Encourage the team to question everything that is in the challenge hand-out and break it down completely. Let them engage in an open discussion about the topic without jumping to solutions. Then start clustering the topics that have been discussed. The primary and secondary research will be conducted later on. During a diverging phase, it is important that the team members do not criticize each other's ideas. You do not want to hear any 'but' just yet. Instead let them say 'yes, and...'. This goes for all divergent brainstorming sessions throughout the event.

Define

Now we can start with critical thinking. How do the different topics relate to each other? What are the priorities of the challenger? Distill insights from the previous brainstorming session and identify a set of 3-5 opportunity areas to keep working on the rest of the event. Finally, formulate a set of HMW questions (How Might We..) of what is to be done or solved in each area. The result should be a challenge definition that either clarifies or details the initial challenge hand-out or even contradicts it.



▶ Image used to set a challange about waste in general

Date & Time	2nd WEDNESDAY	Your role as a mentor
9:00	Breakfast	
9:30 - 10:30	Opening of L&H	
11:00	Break	
11:30 - 13:00	What is CE?	Join as participant (optional) No active role as mentor. The teams have not been announced yet.
13:30 14:00 14:30	Lunch	
15:00 - 16:00	Introduction to challenges	You will get to know the teams and introduce yourself. Besides, you support the team by visualizing their thoughts. Deliverable: visual representation of the challenge on A3
16:30	Break	
17:00 - 18:00	Design Thinking	Support the team throughout the design thinking process Deliverable: Clear challenge definition
18:30	Reflection groups	Participate in a reflection group.
19:00 19:30	Dinner	
20:00 - 21:00	Optional: teams get to know	Optional facilitation

DAY 3 : Field trip

Date & Time	3rd THURSDAY	Your role as a mentor
9:00	Intro	
9:30 - 10:30	Systems Thinking	The workshop will be done in a less conceptual and more experiential way. Mentors can participate in the process and only support the last part (Mind Map). To support the construction/improvement of the Mind Map made by the groups in previous activities. Ask key questions to go deeper into the resolutions of the challenge. Show other possibilities and consequences of each resolution. Are we going the right way? What are the stakeholders involved in this process? How can we involve them? What are the consequences of each proposed action (for good or for bad)?
11:00	Break	
11:30 - 12:30	Change management and roles in CE	This workshop will explore how to introduce changes. In addition it will let participants explore in a hands-on way who should be responsible for implementing circular economy. Mentors can participate in the workshop. No special assistance needed.
13:00	Lunch	
14:00 - 18:00	Field Trip Nam Mushroom	No active role
18:30	Reflection groups	Participate in a reflection group.
19:00	Dinner	
20:00 - 21:00	Optional: group work	Optional facilitation

DAY 4: Develop

Date & Time	4rd FRIDAY	Your role as a mentor
9:00	Intro	
9:30 - 10:30	Panel dis-cussion	Assist the team in drafting a set of questions that they would like to ask to the experts. This needs to happen in the group work time the day before.
11:00	Break	
11:30 - 12:30	Circular Business Models	Participants will explore different circular business models. No special role for the mentors.
13:00	Lunch	
15:00 - 16:00	Independent group work	Manage group dynamics Facilitate creative process Practical support
16:30	Break	
17:00 - 18:00	Independent group work	
18:30	Reflection groups	Participate in a reflection group
19:00	Dinner	
20:00 - 21:00	Optional: group work	Optional facilitation

Day 5: Iterate & Refine

Date & Time	5th SATURDAY	Your role as a mentor
9:00	Intro	
9:30 - 10:30	Open Space Technology (OST)	Everybody is welcome to propose topics to discuss in the format of OST. If a mentor has any ideas for topics, feel free to propose them during previous days and facilitate a table during the OST.
11:00	Break	
11:30 - 12:30	Circular XYZ	This space we have as a backup in case some topics pop-up for the participants. We will fill this spot during the training.
13:00	Lunch	
14:30 15:00	Pitching 101	Participants will learn the basics of pitching in order to prepare for their 3 minute final presentations.
15:30 - 18:00	Independent group work	Manage group dynamics Facilitate creative process Support the team
18:30	Reflection groups	Participate in a reflection group
19:00 19:30	Dinner	
20:00 20:30 21:00	Optional: group work	Optional facilitation

DAY 6: Deliver

Date & Time	6th SUNDAY	Your role as a mentor
9:00	Intro	
9:30 - 12:30	Independent work time	Manage group dynamics Facilitate creative process Support the team
13:00 - 14:00	Lunch	
14:30 - 15:30	Final presentations	Teams will present their outcomes of working on the challenges to a jury panel. As a mentor, cheer for your team and see what others have come up with.
16:00	Break	
16:30 - 17:30	Future engagement	Everybody gets a chance to reflect on their experience during the L&H and think how they would like to continue on the field, which next steps or projects to take. Mentors are welcome to participate and set their own next steps as well.
18:00 18:30	L&H evaluation and closing	Everybody is expected to participate, evaluate and give feedback to the whole experience.
19:00 21:00	Dinner	

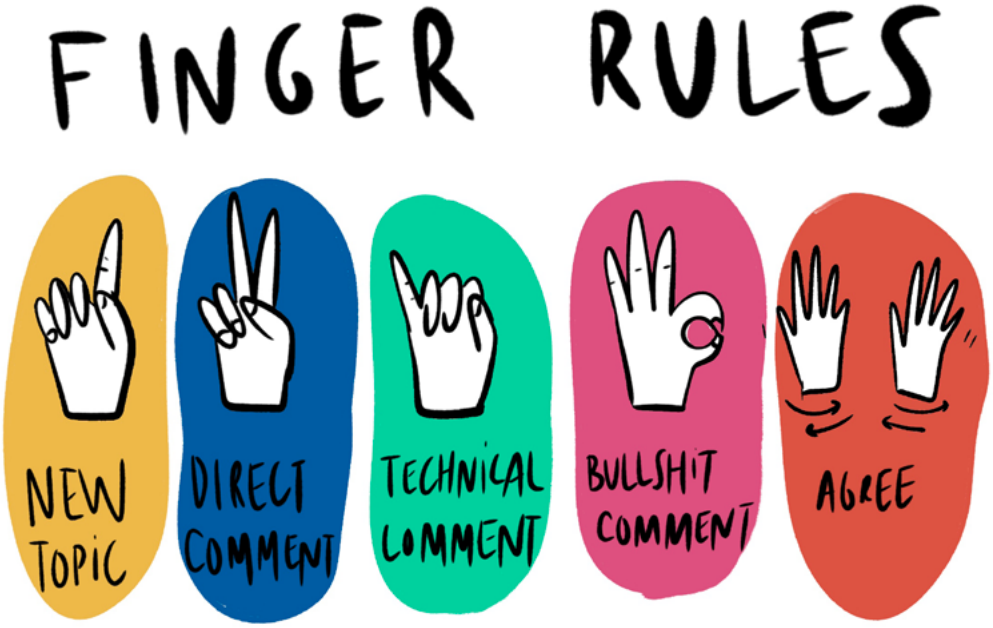
DAY 7: Departure

Leave a room for last conversations and interactions during departure day, as people might leave at different times and this can be useful extra time together for participants and team members.

Appendix III. Facilitation Tools

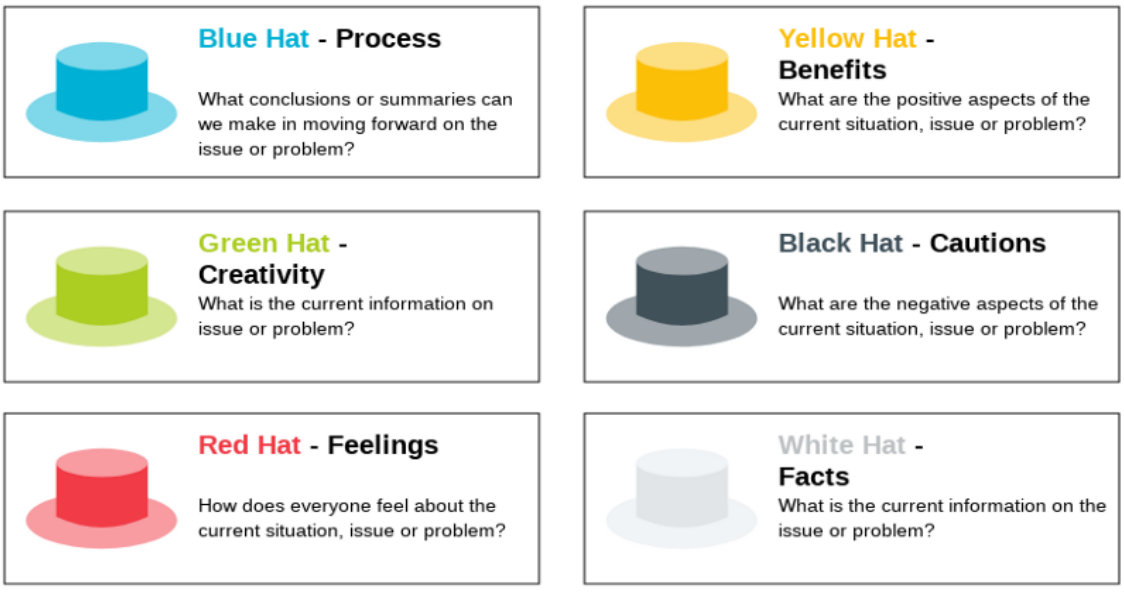
1. Finger Rules

These will be introduced during the opening of L&H to the whole group. The rules are self explanatory and can be used to add structure to group communication.



2. Brainstorming techniques

Thinking hats and other Brainstorming techniques can be use when the team gets stuck or to try out a new angle.



- 6 Thinking hats;: www.cybermedian.com/fa/six-thinking-hats-tutorial/
- Other techniques: www.wework.com/ideas/professional-development/creativity-culture/effective-brainstorming-techniques

3. Circular Design Guide -

Toolbox by the Ellen McArthur foundation to facilitate circular design:

➔ www.circulardesignguide.com/

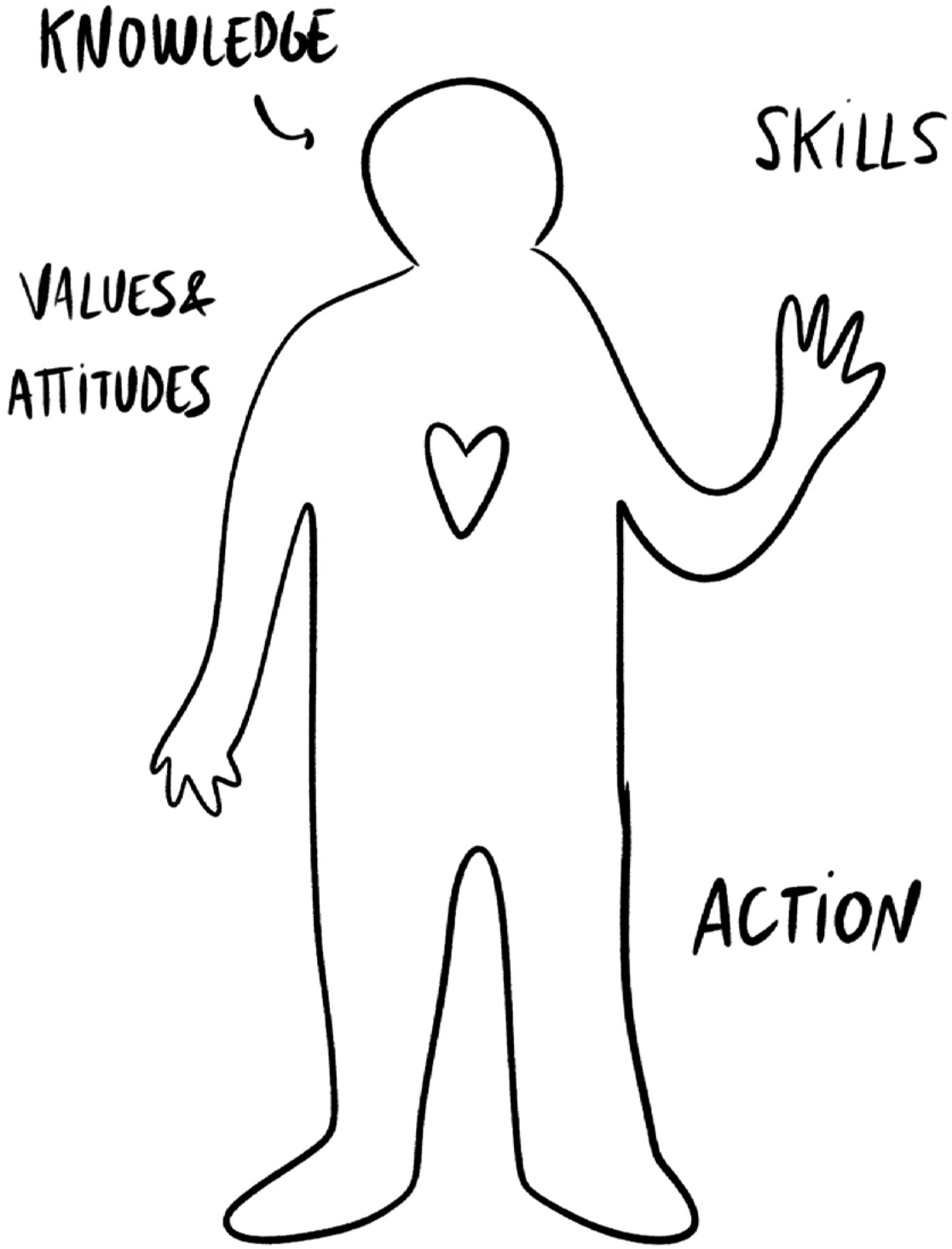
4. Group dynamics

Be aware that bringing together a group of people that has never met before and suddenly has to collaborate intensively for 5 days, can be challenging. Some people are (too) comfortable with expressing themselves. For others it might take a few days before they really start entering the discussion. Eventually, the time frame in which the team operates smoothly and without conflict is just one phase among many others in the team building process. Try not to problematize the 'storming phase' too much. Rather accept it as part of the process, reflect on it and move on.

➔ Team building process: www.mindtools.com/pages/article/newLDR_86.htm

5. Handouts

Shaping CESCY Competences



Competence Framework (Table)

Technical	Core	Innov-Action
Critical understanding of Circular Economy	Ethics in Circular Economy	Adaptability and flexibility
Critical understanding of circular business models		Poblem Solving
Critical understanding of Sustainability	Vision in Circular Economy	Teamwork and collaboration
Systems thinking	Motivation for Circular Economy	Assertive and empathic communication
Design thinking		Activating a change
Participative project management	Lateral Thinking	Working in complex environments and situations

▶ 1 Shaping CESCY Competences

Socratic Method (simplified)

1. **Ask a challenging, open-ended question.**
2. **Build on the first question by asking why?**
3. **Come up with ideas based on these questions.**
4. **Interrogate your ideas with continual questions.**
5. **Repeat steps 2 and 4 to get closer to a better solution.**

- It's ideal that you ask these questions with a group of people to get different peerspectives.

When using this method, rembember:

- Don't give participants a direct answer
- Offer questions in place of answers
- Help participants see that there is never one "correct" answer unless all other solutions have been ruled out

"R" MODEL

REFUSE

Refusing is saying "no" to what we do not need. It is about not making, accepting or using unnecessary things. You can, for example, either create a common practice at the organisation level in order not to give out goodie bags at events or refuse goodie bags as an individual.

REDUCE

In an emergency situation, such as the one in which we find ourselves, preventing the production of waste is essential. The reduction, therefore, appears to be the necessary solution to achieve the goal of an integrated, virtuous and sustainable waste cycle. Fundamental, in this scenario, is a reflection on the amount of packaging that accompanies our consumption choices which was estimated at 177.4 kg per inhabitant in the EU (data updated to 2019).

REPAIR

Extending the life of objects is important to save economic resources and to prevent them from becoming waste. Repair, in addition to being a good habit, sustainable in every sense, is also an excellent solution to counter the rules of the "uncivilised" market as well as protecting the professions connected to them. In fact, handicraft works aimed at extending the life of common goods are dying out. With the project ECCO Circular Economy of Communities (www.economiecircolari.eu) we will be, among others, on the side of upcyclers, tailors, grinders, shoemakers and cyclomechanics, repairers par excellence.

RETHINK

The Circular Economy community that we imagine is made up of second thoughts. Indeed, rethinking means reconsidering something (or someone) to correct it (or to complete it) or transform it (and improve it) and, at the same time, face the fear of marginalisation by committing to face them, thus rethinking one's role as an active citizen.

REUSE

Reuse represents a valid alternative to the disposable concept and is a further alternative to landfilling, thanks to the "concession" of a new appearance or an additional function to an object that has fulfilled its duty in its first life. Reusing means blending material, potential and creativity to offer a new opportunity to a quasi-refusal.

▶ 2 Back to the future

▶ 6 Make the R-principles our principles

RECYCLE

The recycling of waste is the set of operations that allow the reuse of specific materials contained in urban or industrial waste. Recycling is a last resort, the last thing we do before going for landfill or incineration. Together with the upstream reduction of waste and its reuse, it contributes decisively to energy saving and the reduction of polluting and climate-altering emissions.

REGENERATE

Urban regeneration and human regeneration, collective processes whose protagonists are spaces and minds to "regenerate", on the basis of collective processes designed to imagine collaborative cities capable of offering spaces, physical or mental, to those who live there. For our civil and Circular Economy projects, regenerating means reinterpreting lifestyles in a specific territory through a relational process that finds its strength in diversity and hospitality.

REHABILITATE

The Circular Economy becomes a tool to "contain" fragility to allow individuals and communities to "become eligible" to carry out any activity. Rehabilitation, in a welcoming community, starts from the vision that accompanies the challenge, from the opportunity to build new networks of relationships and feel part of the processes of change.

RESTART

Circular Economy can and must be considered an area for restarting processes and people, through the enormous resource that is active citizenship. The latter, in the encounter between the profit and non-profit worlds, can generate work and help restore dignity to people and economic sectors that can bring value starting from the inclusion and sharing of knowledge and objectives.

To facilitate this approach to these issues, it is useful to build favourable ecosystems capable of decreasing conflicts. A gymnasium to train the territories to the new necessary development path. In fact, the transition will not happen naturally, but must be accompanied by new skills, information sharing and an awareness of the path that is being undertaken.

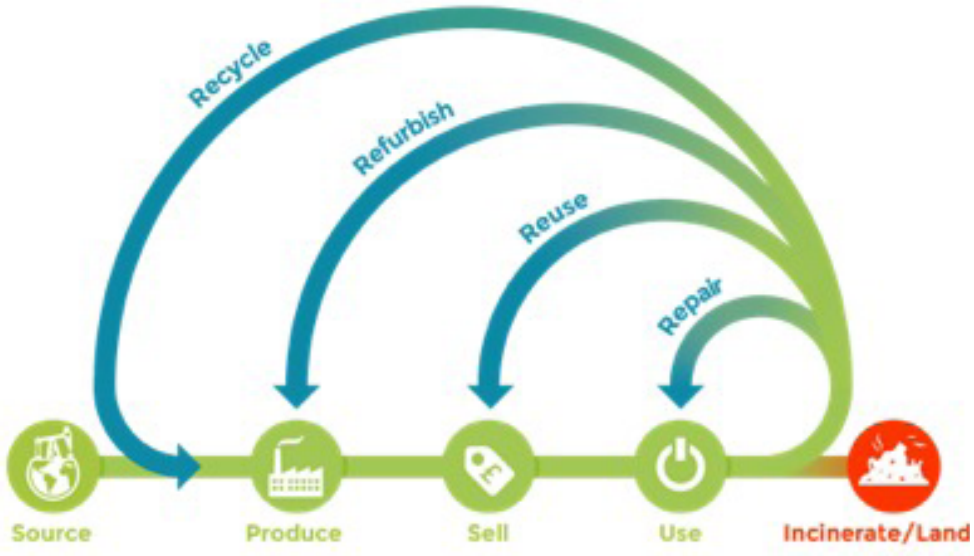
You can find from diverse sources combinations with different number of R and new ones we didn't include, as repurpose and refurbish. These Rs mentioned above are very relevant for a youth worker supporting CE in a youth community. When teaching circularity in everyday life to youth, the first concepts work perfect for giving practical suggestions and tasks to shift actions and mindset. For more advanced reflection, bring them all to your process.

Circular Economy Models

Focus on the R-principles

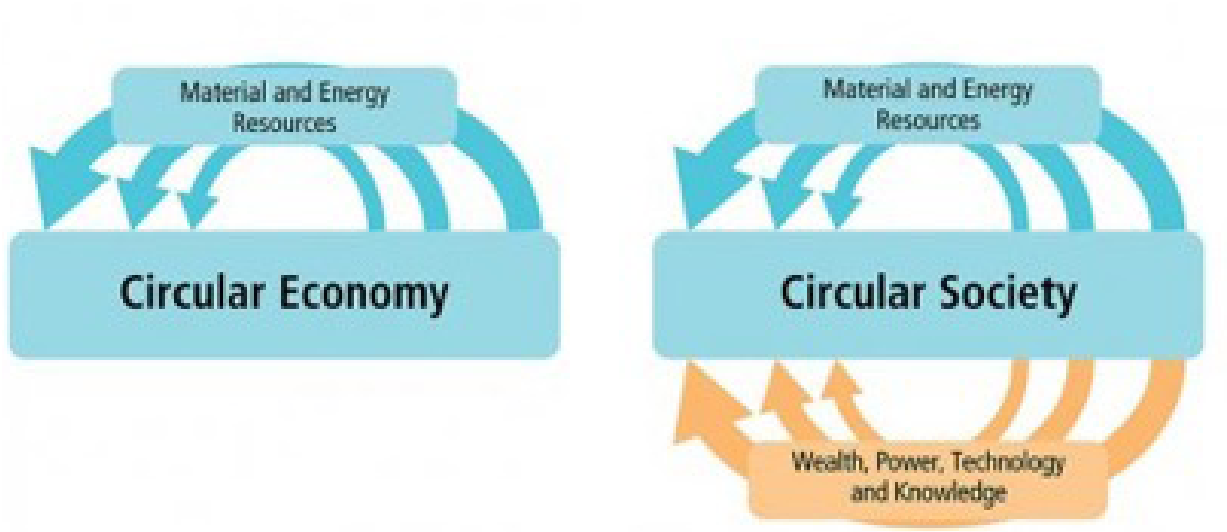
▶ *Source: https://circularregions.org/what-is-the-circular-economy/*

Focus on 1 process



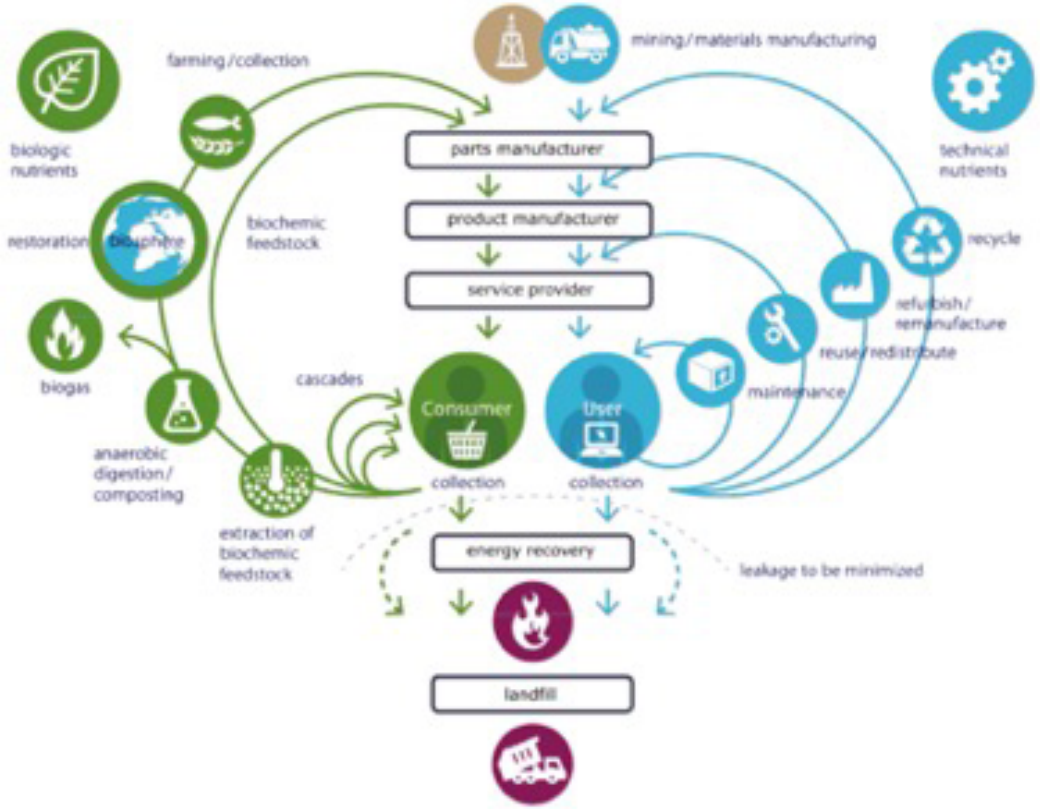
▶ *Source: https://circulartayside.co.uk/circular-tayside-charter/*

Circular Economy vs. Circular Society



▶ *Source: https://www.uu.nl/en/news/different-visions-of-circular-economy*

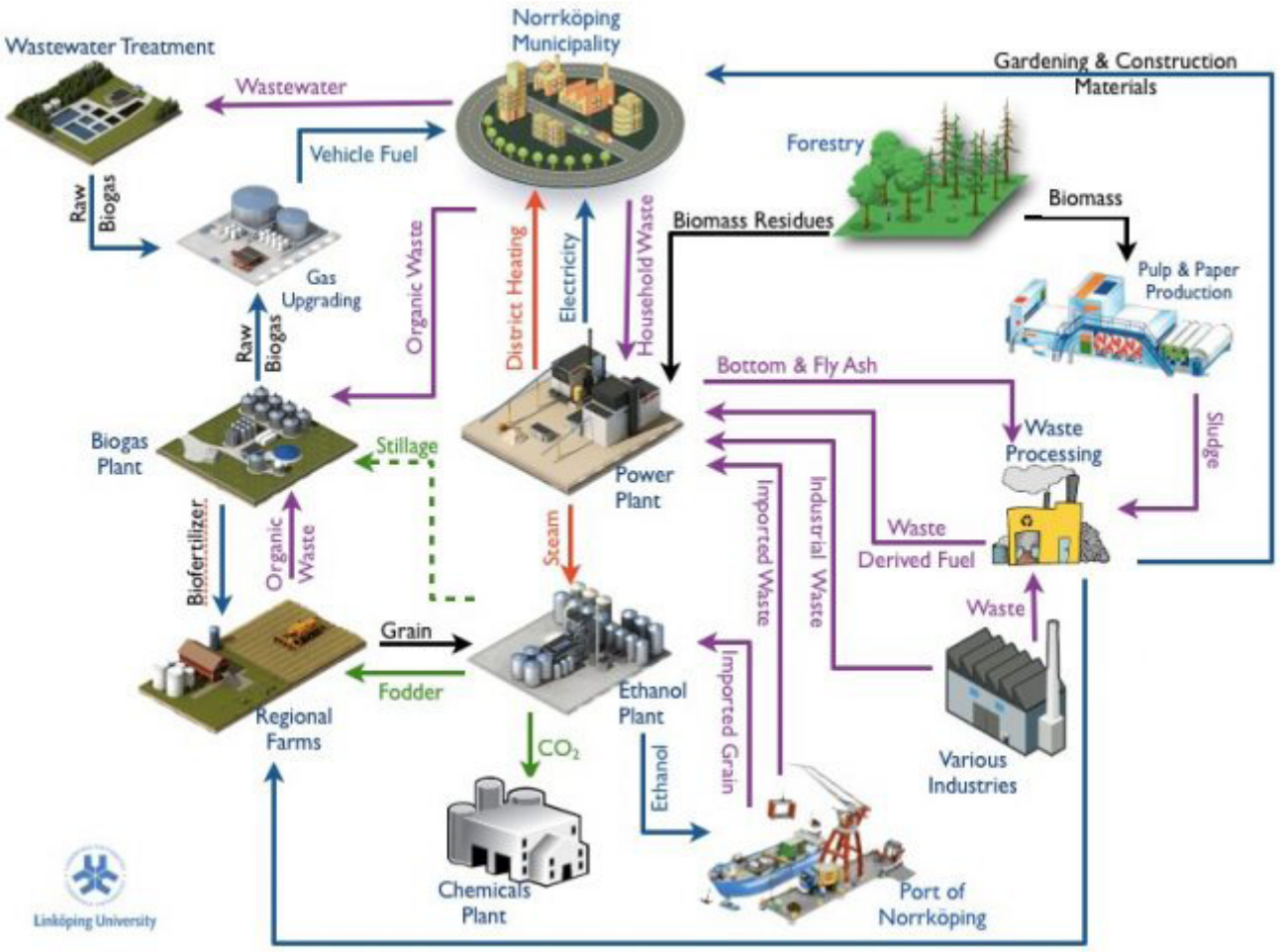
Focus on butterfly model



▶ *Source: https://www.researchgate.net/figure/The-Butterfly-model-for-circular-production-and-consumption-as-proposed-by-the-Ellen_fig1_335293350*

▶ **5 Putting circular economy into perspective**

Focus on industrial symbiosis



▶ *Source: https://csmathsg.com/course-content/week-8/section-8-5-industrial-symbiosis/*

R MODEL in everyday life

The R model is a series of words, easy to remember because they start with R. They are a hierarchy to prevent waste, contribute to sustainability and positive practices.

There are many R, you can refer to them in CESCY manual, and for this activity we are focusing in the initial ones for shifts in our daily life.

Which one of the recycle, refuse, rot, reduce, reuse and rethink is the most important? Do you feel they follow a hierarchy? Explain what the rules mean if necessary.

Show the correct hierarchy, hand participants some low waste living items to place in real life under the different R rules. The items can be the following: water bottle, solid shampoo, website to refuse junk mail, the word "capsule wardrobe", compostable bamboo toothbrush

Ask participants to evaluate on paper what they are already doing well and what they would like to improve while you give a talk about waste prevention.

REFUSE

- Saying no: "could I have drink X without a straw, please", refusing goodiebags
- Ordering a "no junk e-mail" sticker and keeping your inbox clean
- All-year-round gifts wishlist (provide a sample link if possible): donations, gift cards, food, items needed

REDUCE

- Items we bring into our homes will take our time for storage, cleaning etc - is it worth it
- KonMari method from TV series
- Capsule wardrobe
- Low waste hygiene products
- Low waste cleaning products
- Where to get information on repairing things

RETHINK

- Do we have to do things in a way that creates waste and pollution?
- What are existing alternatives and what more would be needed in the world?
- How can we get organizations and the government to hear our thoughts?

REUSE

- Packagefree shopping with reusables (boxes, bags, silicone bags)
- Restaurants with reusables
- Supermarkets with reusable (Loop, local companies that take back their containers)
- Makeup in reusable containers and other refills

RECYCLE & ROT

- Where to get information about recycling (like your nearest containers)
- Trash to treasure Facebook groups for broken things and waste materials
- What to compost: silk floss, bamboo toothbrush
- Printable with information for your neighbourhood on how to give a new life to their things

Keywords Spoken Word Performance

Examples of keyword relating to the context SDG and CE:

Sustainable	Circular	Earth	Sea	Sun	Nature	Solar	Wind
Biodiversity	Politics	Money	Waste	Soup	Green	Tree	Profit
Companies	Producers	Trash	CO2	Plant	Goals	Oil	World
Consumers	Economy	Coal	Energy	Place	Space	Fish	Gas
Rainforest	Pesticides	Vegan	Meat	Bio	Organic	Poison	Plastic
Vegetarian	Extinction	Toxic	Forest	Wood	Animals	People	Hot
Solar panels	Fossil Fuels	Cold	Global warming	Climate Change	Sea level	Planet	War
Development	Drought	Food	Water	Recycle	Land	Fire	Work

Examples of keyword relating to emotions:

Happy	Sad	Angry	Hopeless	Hope	Happiness	Despair	Frustrated
Hungry	Heart	Love	Fear	Joy	Passion	Rage	Vulnerable
Thirsty	Aware	Emotions	Beauty	Enjoy	Inspiration	Blood	Wonderful
Scared	Stupid	Feelings	Courage	Proud	Delighted	Alive	Dead

▶ 9 Spoken Word Performance

Spaceships

We are on the planet Epsilon. The planet is not doing well. For that reason, the planet's council decides to send out 3 teams of explorers to go to the planet Earth and come back with good practices about how to make Epsilon more sustainable. Each team will be in a different spaceship, and will have a different mission.

Spaceship 1 (social dimension):

Discover and visit 3 sustainable communities across the planet and bring a report of their most sustainable practices .

- ➔ How are they sustainable?
- ➔ What makes them successful in being sustainable?
- ➔ What good practices can we adopt on planet Epsilon?

Spaceship 2 (environmental dimension):

We heard about something called plastics - should we try it on our planet?

- ➔ What are the pros and the cons?
- ➔ Can you please go and bring me a sample of different kinds of plastic, so we can take them home for further Alien technology research?

Spaceship 3 (economical dimension):

We don't have any resources anymore - we used them all. We heard that on Earth they have some CE and R principles. Your mission is to discover how to sustain our species using those principles, and bring examples from humans.

- ➔ Which of these practices can we apply on our planet?

Circular Business Models

Circular business models represent fundamentally different ways of producing and consuming goods and services. They have the potential to drive the transition towards a more resource efficient and circular economy and, in doing so, significantly reduce the environmental pressure resulting from economic activity.

Here are five different business models you can look into:

Circular Supplies

The Circular Supplies business model is based on supplying fully renewable, recyclable, or biodegradable resource inputs that underpin circular production and consumption systems. Through it, companies replace linear resource approaches and phase out the use of scarce resources while cutting waste, and removing inefficiencies. This model is most powerful for companies dealing with scarce commodities or ones with a major environmental footprint.

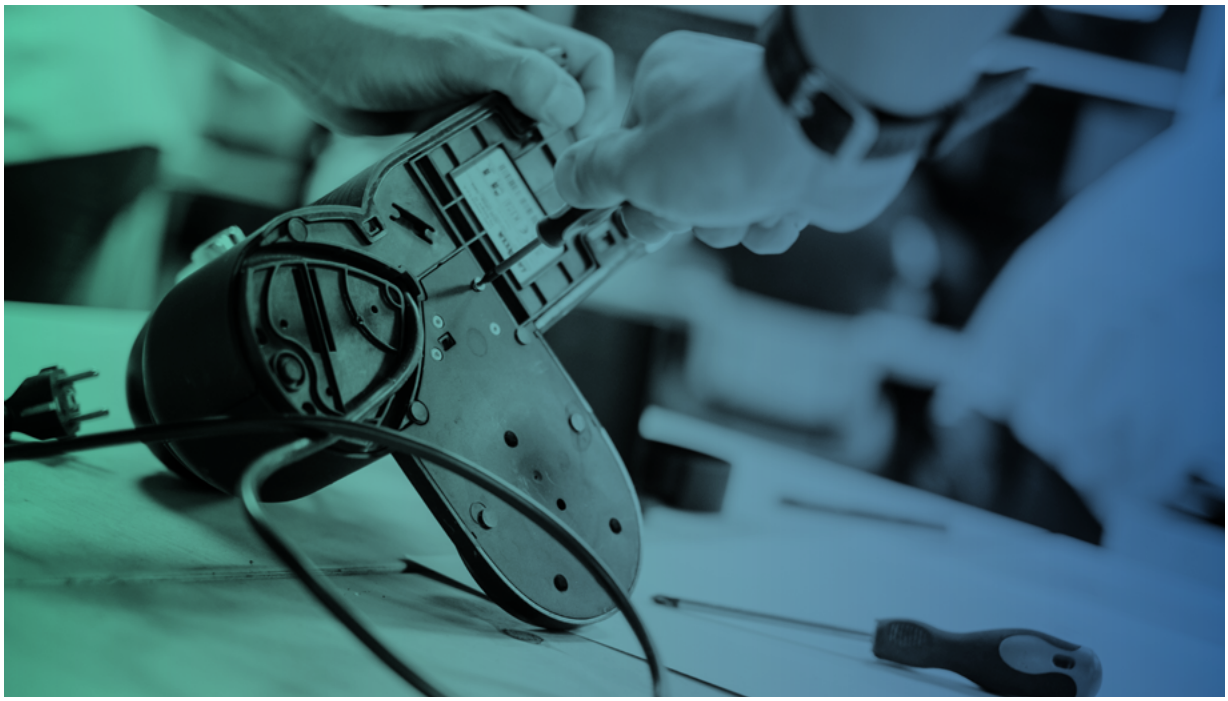
Royal DSM is one player at the forefront of adopting the Circular Supplies business model to fuel its shift from a virgin material supplier to a company that reuses materials and provides new eco-friendly ones.

One example: The company developed cellulosic bio-ethanol, a byproduct of co-fermenting sugars derived from crops. Such bio-based chemicals have great potential to reduce waste and net CO2 emissions compared with fossil fuels. The cellulosic bio-ethanol has created a new revenue stream for DSM from a feedstock that was previously considered very low value, and the company anticipates it could eventually create upwards of 70,000 related jobs (David Hodes, "Advancing Biofuels," GCXMag.com, April 10, 2013).

▶ 12 Who am I talking to today?

Resource Recovery

Recovery of embedded value at the end of one product lifecycle to feed into another promotes return chains and transforms waste into value through innovative recycling and upcycling services. Having its bedrock in traditional recycling markets this business model leverage new technologies and capabilities to recover almost any type of resource output at a level of value equivalent to, or even above, that of the initial investment. Solutions range from industrial symbiosis to integrated closed loops recycling and Cradle-to-Cradle® designs where disposed products can be reprocessed into new. This model, which enables a company to eliminate material leakage and maximize economic value of product return flows, is a good fit for companies that produce large volumes of by-product or where waste material from products can be reclaimed and reprocessed cost effectively.



In the food sector, the Resource Recovery business model allows US grocery chain Kroger to convert food waste into renewable energy. The 150 tons of food waste the company produces each day at its Ralphs/Food 4 Less Compton distribution center—which used to be seen as a major cost in terms of lost revenue, disposal fees and emissions—now provides inexpensive, clean energy. That energy in turn powers a 49-acre campus that houses Kroger's offices as well as the distribution center.

The company relies on an "anaerobic digestion" system that converts food waste into biogas that runs the campus's microturbines and boilers replacing virtually all of the natural gas previously used. To date the initiative has yielded an 18 percent on Kroger's investment. An example of a company that is recovering residual value potential in post-consumer product waste is carpet manufacturer, Desso. The company developed a separation technique called Refinity®, which enables separation of yarn and other fibers from carpet backing. After a purification stage, this allows the yarn to be returned for the production of new yarn in a Cradle-to-Cradle® system.

▶ 12 Who am I talking to today?

Product Life Extension

Product Life Extension allows companies to extend the lifecycle of products and assets. Values that would otherwise be lost through wasted materials are instead maintained or even improved by repairing, upgrading, remanufacturing or remarketing products. And additional revenue is generated thanks to extended usage. Using this model, a company can help ensure that products stay economically useful for as long as possible and that product upgrades are done in a more targeted way (for instance, an outdated component is replaced instead of the entire product).

This model is appropriate for most capital-intensive B2B segments (such as industrial equipment) and B2C companies that serve markets where pre-owned products (or "recommerce") are common or whose new releases of a product typically generate only partial additional performance benefits for customers over the previous version.

By embracing the Product Life Extension business model, Google is addressing the obsolescence challenge in the mobile phone arena: What to do with devices when they no longer suit a customer's needs? The company's Project Ara initiative focuses on reinventing the smartphone by breaking it down into replaceable modules that can be assembled and customized according to user requirements. With the ability to swap modules, users can easily alter their phone with basic skills and tools (thus keeping the phone relevant for a longer period of time) and repair the phone more easily and inexpensively by replacing only what is broken instead of the entire phone. By maximizing a phone's useful lifetime, Google reduces the need for virgin resources to make new phones while minimizing the amount of E-waste generated. A possible complement to this design principle could be an online marketplace where users can trade phone modules to extend the lifecycle of components and recapture residual value.

▶ *Pictures by Kaimar Tamm during Learn & Hack Estonia.*

▶ 12 Who am I talking to today?

Sharing Platforms

The Sharing Platforms business model promotes a platform for collaboration among product users, either individuals or organizations. These facilitate the sharing of overcapacity or underutilization, increasing productivity and user value creation. This model, which helps maximize utilization, could benefit companies whose products and assets have a low utilization or ownership rate. However, today it's most commonly found among companies specializing in increasing the utilization rate of products without doing any manufacturing themselves, putting considerable stress on traditional manufacturers.

Ride-sharing company Lyft, Inc. is revolutionizing one segment of the travel market with the Sharing Platforms business model. Lyft's co-founders realized that cars making trips within cities were vastly underutilized; they estimated 80 percent of seats were empty. The company helps fill those seats by enabling, via its mobile app, individuals who need a ride somewhere to request one from someone who has a car. Pickup and ride fee (typically 20 percent to 30 percent lower than a comparable taxi fare) is paid through the app, of which Lyft takes a 20 percent cut.

The business model appears to resonate not only with customers but with investors as well: The company in April 2014 announced a new round of funding worth $250 million (for a total of $333 million thus far), which the company says will help fuel Lyft's ongoing domestic—and, eventually, global—expansion.

Product as a Service

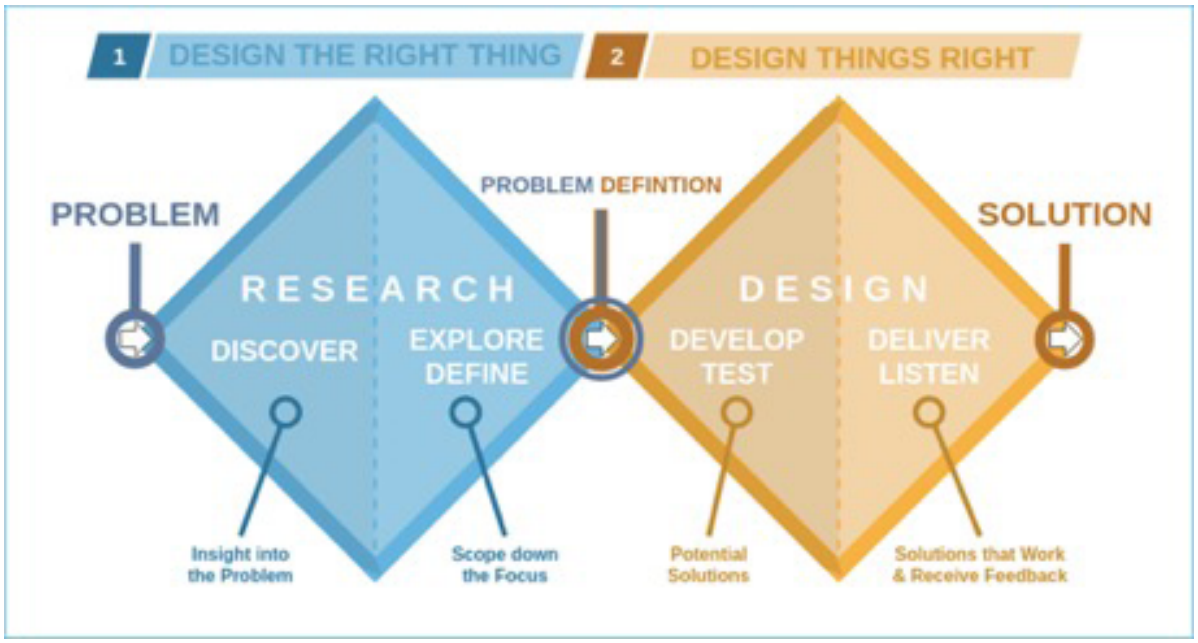
The Product as a Service business model provides an alternative to the traditional model of "buy and own." Products are used by one or many customers through a lease or pay-for-use arrangement. This business model turns incentives for product durability and upgradability upside down, shifting them from volume to performance.

With a Product as a Service business model, product longevity, reusability, and sharing are no longer seen as cannibalization risks, but instead, drivers of revenues and reduced costs. This model would be attractive to companies whose products' cost of operation share is high and that have a skill advantage relative to their customers in managing maintenance of products (giving them an edge in selling services and recapturing residual value at end of life). Michelin, one of the world's leading tire manufacturers, has made significant strides toward adopting the Product as a Service model to create an innovative program in which fleet customers can lease instead of purchase tires outright. Under this program, Michelin effectively sells "tires as a service." Customers pay per miles driven. They don't own the tires. And don't have to deal with the hassles of punctures or maintenance of any kind. By adopting a Product as a Service model, Michelin is incentivized to develop longer lasting tires. And, by getting worn-out tires back, the company is motivated to make sure through design and material selection that they can be reprocessed into a valuable input for new tires or something completely different.

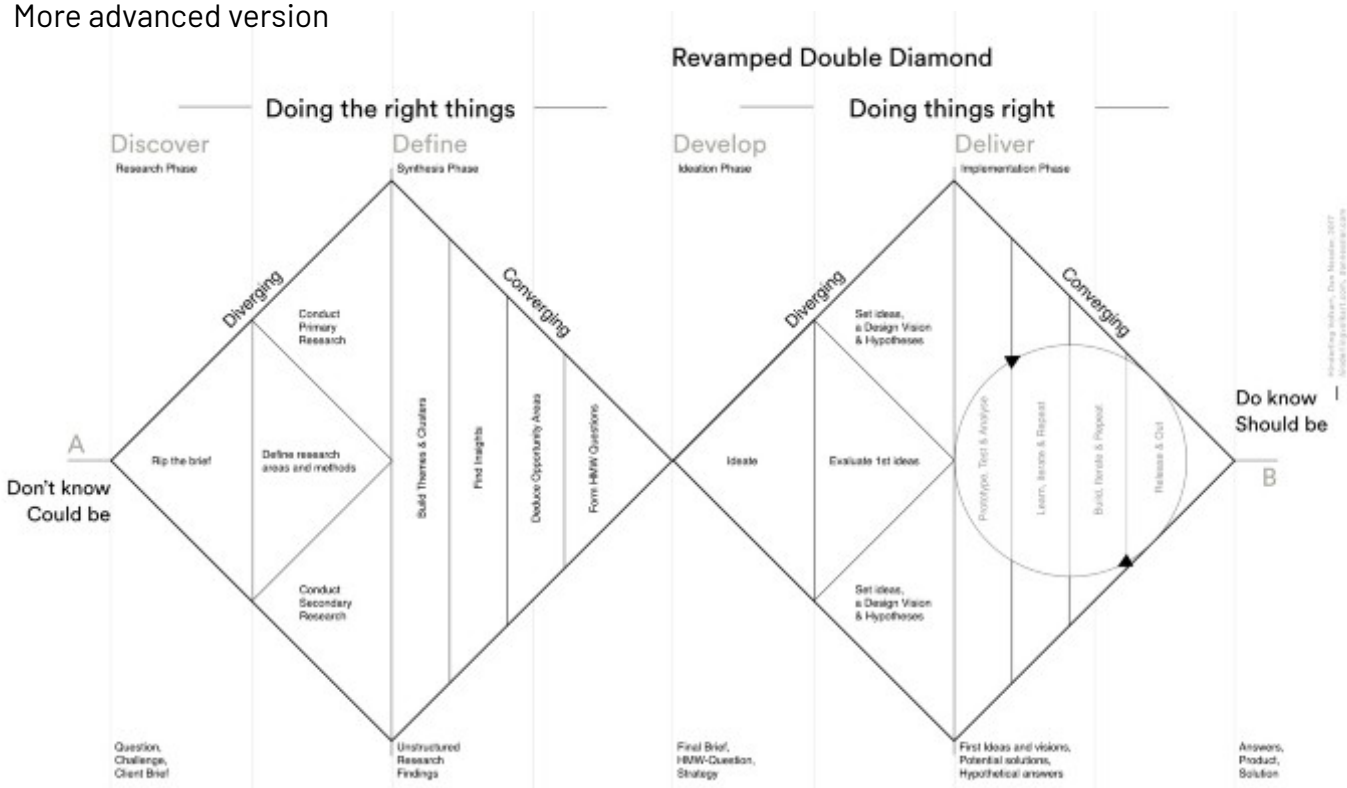
▶ 12 Who am I talking to today?

Design for Circularity

Simple version



More advanced version



▶ *Source: https://uxdesign.cc/how-to-solve-problems-applying-a-uxdesign-designthinking-hcd-or-any-design-process-from-scratch-v2-aa16e2dd550b*

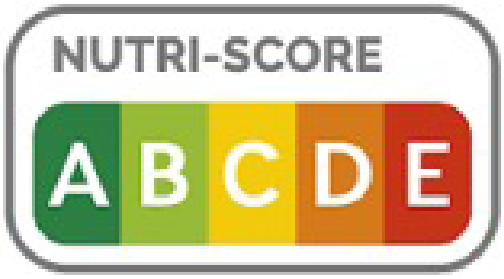
▶ 14 Design for Circularity

Lights, camera, circular action!

EU Organic Logo

Protected geographical indications (PGI)
Protected designations of origins (PDO)

Eco-Score for the environment



Nutri-Score for nutrition

R o l e s :

HAPPY TO JOIN A GOOD OPINION	PEOPLE PLEASER SUPPORTING GOOD IDEAS
VISIONARY WAY TO SHARE AN IDEA	VERY OPINIONATED PERSON
FREE TO BEHAVE HOW YOU PREFER	TENDENCY TO SAY NO TO OTHER'S OPINIONS

Energies:

Type of Energy	Source	Advantage	Disadvantage
Solar Energy	Sunlight	Infinite resource Environmental friendly	Expensive Large Space
Wind Energy (wind Power)	Wind	Rapid growth Low operational costs	Environmental issues Noise problem
Geothermal Energy	Underground heat of Earth	Potential infinite	LImited area (Volcanic activity)
Biomass Energy	Decaying plant or animal waste	Carbon neutral Cost effective	Expensive Requieres space
Hydropower (Hidroelectric Power)	Gravitational force of falling or flowing water	Reliable Flexible	Expensive Environmental issues Limited reservoir
Tidal Energy	Movement tide	Predictible Long lifespans	Environmental issues Expensive
Wave Energy	Movement of seawater	Ideal for island	Environmental issues Expensive

Policy for circular economy competences

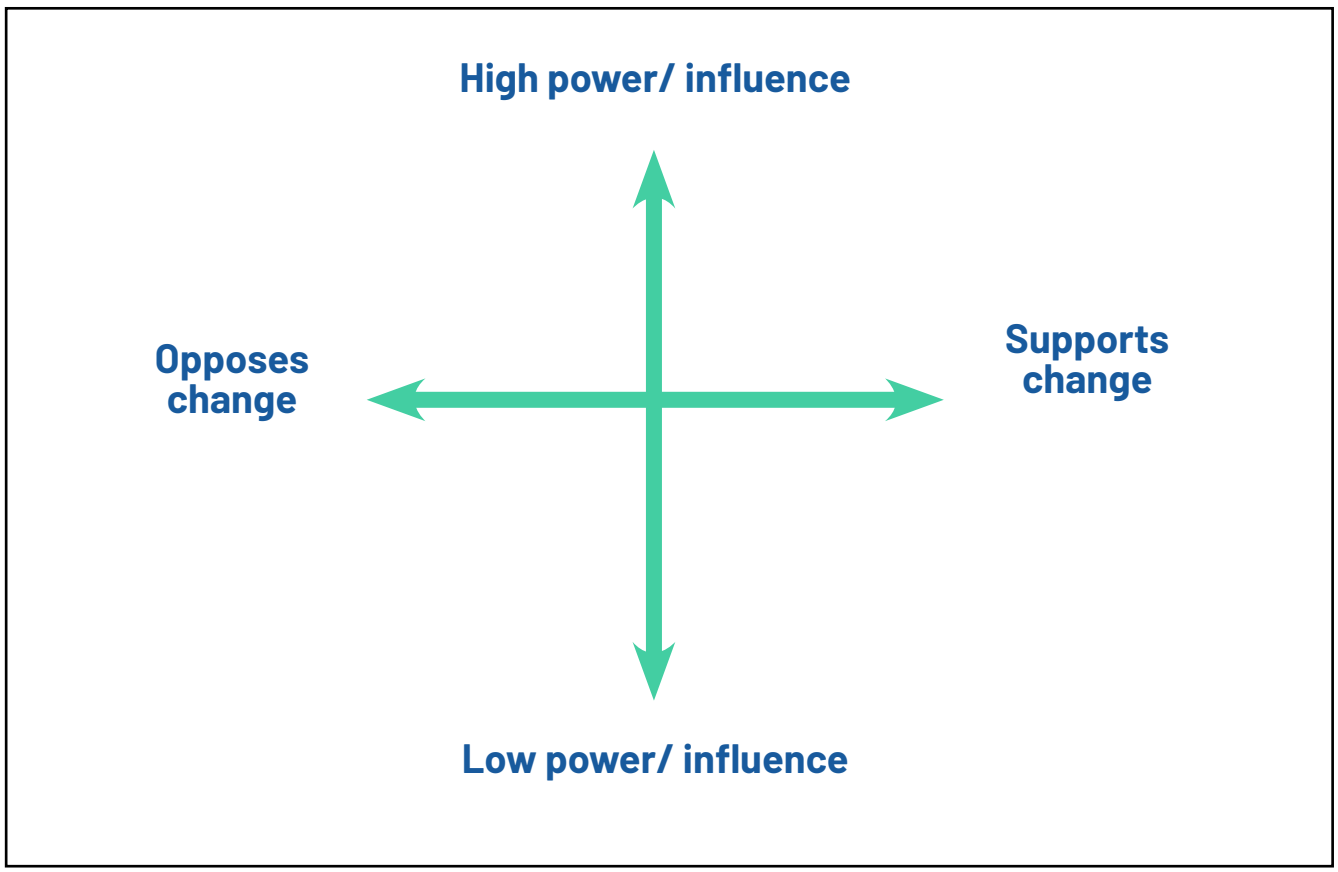
DEFINITIONS:

Policy: a set of ideas or principle of actions adopted or proposed by a government, an organisation, a business, an informal group of people, etc.

Advocacy: publicly support, suggest or recommend a particular way of doing, a cause or a policy with the aim to persuade decision-makers

Stakeholders: anyone affected by the change you want to make; a person or group of people with a stake or interest in the success or failure of your enterprise or movement

STAKEHOLDER MAPPING CHART:



QUESTIONS FOR THE GROUP DISCUSSIONS:

Table 1: 2 statements with scales from strongly disagree to strongly agree.

How much do you agree with the following statements? Why?	
1. It is essential for young people to have circular economy competences.	2. Young people have sufficient opportunities to acquire circular economy competences.

Table 2: One question with 3 sections to groups for answers:

What kind of opportunities to acquire and develop circular economy competences do you know of or would you like to have? Who should provide these opportunities?		
What is available and working well	What could be improved	What is completely missing

Table 3: One question with two sections for answers:

How could the following actors better support young people in acquiring and developing circular economy competences?	
education institutions	policy-makers

Table 4: One question with two sections for answers:

How could the following actors better support young people in acquiring and developing circular economy competences?	
companies/businesses	youth organisations

Circular Economy Business Model Canvas

Project name:
Author/s:
Canvas Version:

8 Environmental Impact
Positive and negative
How does it support and how does it harm the ecosystem?

6 Resources
What it does? What activities create value? (contrast with value (5))

Natural resources

Technical resources

Energy resources

1 Mision
What is it for? What problem it addresses? (contrast with needs (2))

3 Key activities
What it does? hat activities create value? (contrast with value (5))

2 Users
What is the need of the users? For whom is it?

4 Partners
Who are the partners needed? What experience do they provide?

5 Value
What is the added value that makes it special? What are the key elements? Where is the innovation?

7 Future
What it does? What activities create value? (contrast with value (5))

Distribution
How is it delivered? Is there customer service?

Next uses
What is the end-of-use of the product? Can it be reused, repaired, recycled? Can it be zero waste?

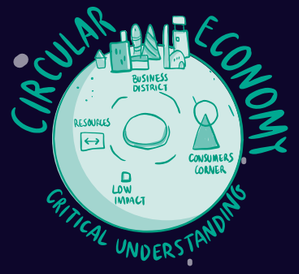
Advertisement
How is it publicised?

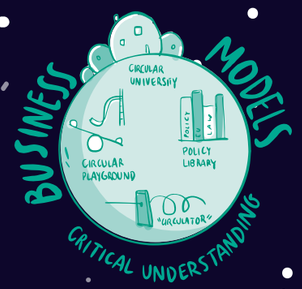
8 Social Impact
Positive and negative
How does it support and how does it harm local communities?

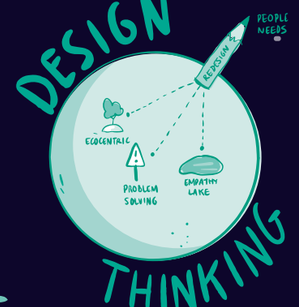
9 Circular Economy

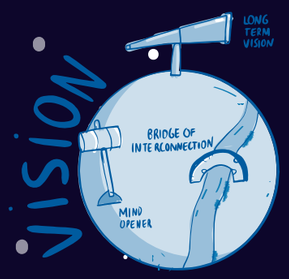
	Materials+Parts	Production	Service providing	Maintenance	End of Life
EXPENSES					
REVENUES					

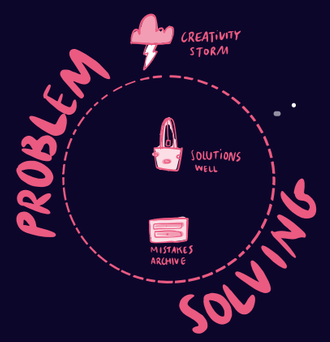
7 Circular Economy Business Model Canvas





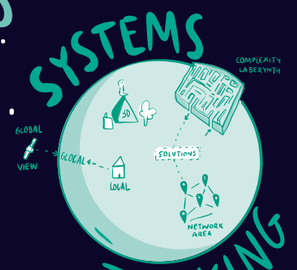


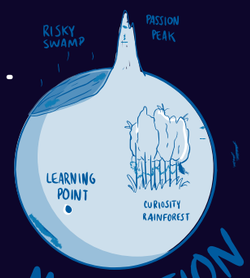


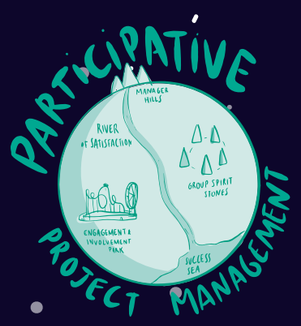


TECHNICAL COMPETENCES AREA

CORE COMPETENCES AREA







INNOV-ACTION COMPETENCES AREA