



Circula

The Circular Economy and
Entrepreneurship Game

Teacher's Guide

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circula.fi

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Circular economy – steps towards a sustainable future

Circula is a circular economy and entrepreneurship game that introduces learners to the circular economy through creative teamwork. It is appropriate for learners at various levels and can be easily incorporated into broader learning modules and programmes. Circula can also be used in contexts such as youth recreational activities and as a tool in the provision of environmental advisory services.

Young people as well as adults feel a sense of being powerless in the face of threatening future scenarios (e.g. Youth Barometer 2016, 2018). Our awareness of the limits of our planet is growing: the climate is changing and ecosystems are at the limits of their carrying capacity. At the same time, the competition for natural resources is intensifying. Understanding the threats is important, but we also need positive possibilities and future visions to pursue. The circular economy provides us with these.

The circular economy is a new way of thinking about the economy at various levels: consumers, companies and society. The goal is to prevent natural resources from becoming waste after being used in short-lived products. This is achieved by creating business activity and a society based on a continuous cycle. Operating in a responsible and resource-efficient manner represents a competitive advantage for companies. In the near future, it will even become essential for their survival.

The digital transformation is linked to the circular economy: innovations such as sharing platforms and the Internet of Things enable us to extract more utility from materials and products. At the same time, the circular economy reinvigorates old, familiar and sensible operating models, such as durable and high-quality products as well as proper maintenance and repairs.

New thinking is needed from companies as well as their customers. New thinking and learning are facilitated by personal experience and thinking as well as interaction and working together.

By playing a game, for example!

Gamified learning about the circular economy

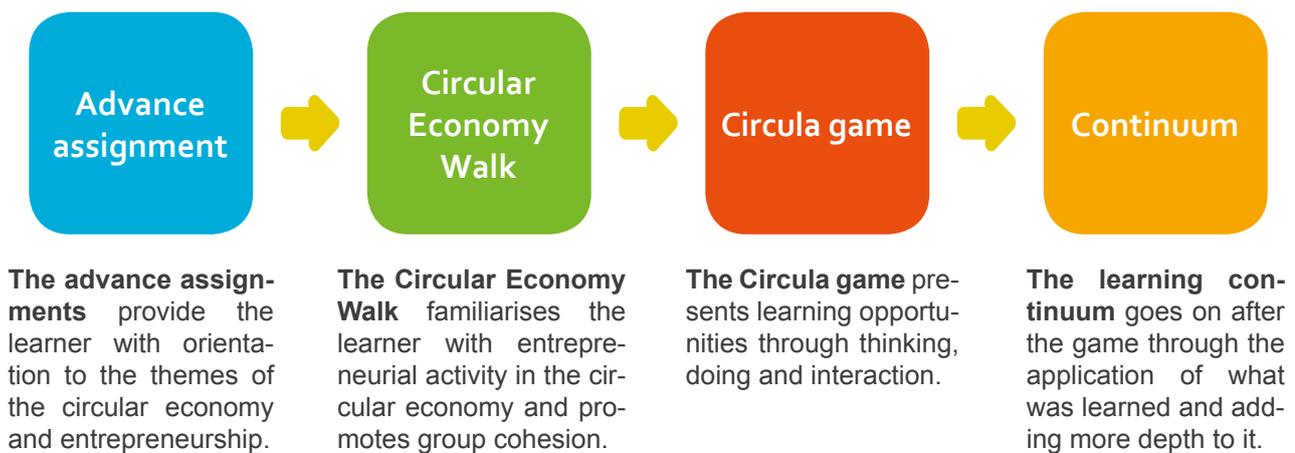
The pedagogy of Circula

Gamification is an approach that works with many kinds of learners as long as the goals and instructions are adapted to the players. Circula has been tested and used in groups representing various ages and educational backgrounds, from secondary school students to experienced specialists. This guide describes the basic steps of the game, but ideas for adaptation are also included.

Gamification does not equal competition. Instead, it means being playful, having the freedom to think and working together. While scoring points is possible in Circula, it is not essential. The feedback given and received is more valuable than scoring points or having a winner declared.

More than a game

While the isolated experience of playing the game has value in terms of arousing interest and inspiring thinking, learning is ideally a continuum. In Circula, the learning experience consists of advance assignments, a Circular Economy Walk, the game and the continuum that the teacher builds and adapts to the group.



Learning objectives

The game's pedagogic objectives depend on the players and the teacher sets the objectives based on the situation.

The participants of the Circula game

- get exposure to positive visions of the future and possible actions
- learn to understand the circular economy on a practical level, from the perspective of entrepreneurial activity and consumption
- recognise and appreciate their own strengths and skills as well as those of their team members
- work together as a team, taking responsibility for their own learning and the team members' learning
- acquire skills related to business idea development and entrepreneurship



Preparing for the game

Participants

The game is appropriate for secondary school students and older players. The number of players can range from 9 to 25: at least three teams of three players each, at most five teams of five players each. The ideal group size is 3–4 players.

The teacher acts as the Game Master. If there are several teachers or instructors involved, one assumes the role of Game Master and the others support the teams in their work.

Suggestion

In vocational schools and universities of applied sciences

Circula is at its most rewarding when it is played in mixed groups consisting of students from various fields of study: this ensures that the teams benefit from diverse ideas and skills. If the game is played in groups consisting of students from the same field of study, you can choose company examples and resource cards that are relevant to the field in question.

Time allocation

The Circular Economy Walk and the Circula game can be done on the same occasion or spread out over several days. You should allocate time to the various components as follows:

Circular Economy Walk (45–60 minutes)

- warm-up: use a method you are familiar with to introduce the participants to the subject and create a positive atmosphere (10 minutes)
- discussion of the advance assignment (10 minutes)
- Circular Economy Walk (20–30 minutes)
- forming company teams (5 minutes)

Circula game in company teams (70–90 minutes)

- company team (20 minutes)
- the basis of the company (20–30 minutes)
- towards the pitch! (20 minutes)
- preparing the pitch (10–15 minutes)

Pitches and wrapping up (30–60 minutes)

- company team pitches and feedback (at least 5 minutes per team)
- the Game Master's feedback for the teams, possible awarding of points (5–10 minutes)
- jury, if any: bonus points and feedback for the teams (15 minutes)
- adding up the teams' scores (5 minutes)
- final discussion (10 minutes)

Also remember to allocate time for breaks, although the players usually won't want to take any!

Game Master's materials

- a deck of resource cards
- a deck of surprise cards
- one feedback card for each player (four different kinds)
- one feedback form per team (print more from www.circula.fi if necessary)

Suggestion Add new skills and strengths to the game!

We all have many different skills and strengths. The cards included in Circula simply aren't enough! The decks include blank cards that the players can use with Post-it notes to add their skills or strengths to the game. The teacher can also type up and print cards for the group using the blank PDF card templates provided at www.circula.fi. In vocational education, in particular, motivation is increased by being able to incorporate skills related to the specific field of study into the game.

Suggestion Real-world resources boost motivation!

Instead of the pre-written resource cards, the game can also be played with real-world surplus resources. The relevant information can be obtained by contacting local companies, the municipality or the various units of a vocational school. Real-world resources can be made into playing cards by using the PDF card template (www.circula.fi) or by putting the actual resources on display in the space where the game is played – if they fit!

Info Circula game materials online

The Circula materials are also available in a digital format for printing. When using the material, please be mindful of the simple terms of use.

Creative Commons CC BY-NC-ND licence:

- The content can be used for educational purposes but not commercially.
- You may not modify the material or save new versions of it.
- You may distribute the material non-commercially on platforms such as websites and social media.
- When sharing the material, always mention the source (www.circula.fi) and the licence!



Advance assignment

For the participants to get the most out of the game, they should be oriented to the themes of the circular economy and entrepreneurship in advance.

Assignments A–C can be done in groups or given as homework. Discuss the thoughts inspired by the video clips and tests before the Circular Economy Walk. Assignment D is a group activity.

A. Video clips

Watch at least two of the following videos:

- **The Circular Economy**
Ellen MacArthur Foundation, 4 minutes, subtitled in Finnish, bit.ly/ennakkovideo1
- **Hooked on consumption?**
Yle Kioski, 7 minutes, in Finnish, bit.ly/ennakkovideo2
- **Turning plastic bottles into clothing**
Yleisradio, 3 minutes, in Finnish, bit.ly/ennakkovideo3

B. Circular Economy Test

The Circular Economy Test introduces different ways of living and consuming in a circular economy. There are no villains in this test – there are suitable solutions for all types of people. yle.fi/kiertotaloustesti (in Finnish).

C. Entrepreneurship Test

A company needs many kinds of skills and competencies. We all have strengths that suit entrepreneurship. The test is available on the YES Network website at yesverkosto.fi (in Finnish).

D. Recognising skills and strengths

The purpose of this activity is to recognise one's own skills and strengths and those of others. Getting the players familiar with the skill and strength cards makes the Circula game's company team start-up stage faster.

You need one deck of each type. Deal four random skill cards and four strength cards to each participant. The players need to swap cards with others with the goal of having everyone end up with cards that suit them as much as possible.

First ask the players to choose which cards to keep and which ones to swap. Give the group a set amount of time, such as 10 minutes, to exchange cards with each other. Finally, each participant must give up one skill and one strength and be left with the six most important cards.

During the actual Circula game, each team will have its own deck of cards, so there will be more choices available. The cards the participants are left holding at the end of this activity do not determine their choices during the game itself.

Suggestion

Create space for skills and strengths

Identifying the team's skills and strengths is the starting point of the Circula game. Entrepreneurial activity requires many types of personalities. Strong business teams consist of different types of talents. The skill and strength cards are as important to the company teams as the resource cards.





Circula game

The purpose of the game is to come up with an idea for a company that

-  is a response to a real need or problem
-  uses natural resources in an imaginative and sustainable manner
-  is a profitable business

The game board represents the team's company: the players place the cards and ideas on the board that the team needs for the business. At the end of the game, the team pitches its business idea to the others and receives feedback. Points may be awarded for the business idea and pitch, for completing a task given in a surprise card and for engaging in cooperation with other teams.

The team does not need to read the game instructions all the way through. Two corners of the game board have numbered steps for the team to move its playing piece along as the game progresses. This helps the team follow the instructions step by step. The numbers in the middle of the game board refer to the game instructions and indicate where the team will find the tasks in question.

How to play

Company team

START

- 1 Each player chooses three strength cards that match their personal attributes.**
Present your strengths to each other.
- 2 Each player chooses three skill cards and presents them to the other team members.**
Keep hold of your strength and skill cards for now. The decks include blank cards. If there are no suitable cards among the pre-designed cards, players can write a skill or strength down on a Post-it note and attach it to a blank card.
- 3 Go to the Game Master to get one resource card for each team member.**
The players draw resource cards from the deck at random. *Another option is to let the teams choose compatible resources, but this takes much more time and removes some of the gamification element: randomness is part of the game.*
The resources described on the cards are products, materials or premises that are surplus to the needs of others. The team can choose to establish a company based on utilising one or more resources or come up with an idea for a business that would prevent a surplus resource described on a card from being created.
- 4 Come up with ideas for the company's operations based on your resources, skills and strengths!**
You can use the Circular Economy Walk company examples and business models for inspiration.
- 5 Choose what resources, skills and strengths to use in your company.**
Place the corresponding cards on the board. You can add more cards on the board later if you come up with uses for them in your company.
The board does not have room for all of the team's skills and strengths. Guide the team to choose the most important ones in such a way as to value each member's skills and attributes equally.

The basis of the company

You can move forward and backward between steps 6–10 as you develop your company.

6 Business idea

What is your company's business idea?

What need or problem does your company solve?

When the teams are roughly at step 6, interrupt their work for a moment. Ask the teams to briefly describe their preliminary business idea, the resources they will use and what resources will be left over. The teams can now exchange resources. If a team has found it hard to get anything started with the resources it has, it can even swap out all of its cards.

7 Who is it for?

Who are your company's customer groups? Describe them in as much detail as possible.

What do they expect of your company?

What do your customers pay for – how do you earn revenue?

Customer groups can include consumers, businesses, municipalities or non-governmental organisations, for example. In order to effectively serve its customers, a company has to think carefully about who it wants to pursue as its customers. Assessing customer groups allows the company team to relate to the customer's situation and respond to customer needs.

8 What?

Describe your product or service in more detail. What is your promise to the customer?

What are the values of your company: what kind of impact do you want to have on the world?

Values are re-emerging as a strength in business. Guide the team to think about the company's impact on people and the environment both near and far. What kind of world does the team want to build?

9 Surprise!

Pick up a surprise card from the Game Master and respond to the situation the card describes.

Have the team draw a surprise card from the deck at random. Some of the surprise cards present an opportunity to earn additional points. The Game Master or one of the other instructors awards points to the team for completing the task described in the surprise card. The points are awarded according to the instructions on the card and the teacher's discretion.

Some of the surprises require the team to cooperate with another team. The other team always receives 20 points for their role in the cooperation. If you want to emphasise the cooperative aspects of the game, you can choose to only use the surprise cards involving cooperation and leave the other cards out of the deck.



10

How?

How do you produce your product or service for the customer?

For example: production facilities, employees, sales, accessibility...?

How are your values reflected in your day-to-day operations?

What expenses does the company have? How many employees are needed? Where will the company obtain more resources over time? Does the company intend to expand its operations? The team defined its values in step 8 – how are they reflected in day-to-day work?

Towards the pitch!

11

Roles

Discuss your team's division of responsibilities based on your strengths and skills.

For example, who is responsible for personnel management, marketing, customer relationships, development and cooperation with other companies and organisations?

Who might be the CEO? What kinds of attributes are needed for that role? And who is responsible for development, personnel management, marketing, customer relationships and cooperation with other companies and organisations? Are there skills or strengths currently outside the game board that now emerge as important? Does the team lack some essential competencies and how could they be obtained?

12

Circular economy

This game is all about finding business ideas that are not based on the consumption of natural resources, but rather their imaginative and sustainable use.

What makes your company part of the circular economy?

What circular economy business model, or models, does your company implement?

You can challenge the team to review the business models to see if there are some additional ideas they could apply in their company.

13

Communication

What kind of company image do you want to communicate: what do you want people to think about you?

How — and in what channels — will you communicate what your company does?

Additional questions: How will you communicate your values and operating methods to your customers and partners? What communication channels will you use? If you intend to use social media, specify which platforms and how.

14

The pitch

Prepare a brief, exciting presentation about your company.

FINISH

Pitch and feedback – the culmination of the game

The pitch is a short company presentation that provides a concise explanation of what the company does. The content is planned based on how much time is available and who the audience is.

The Game Master informs the teams of the duration of the pitch: 60 seconds or three minutes. The teams are given 10–15 minutes to prepare their pitch. They can use the Pitch Checklist as a reference. You can also show an instructional video and a few examples of good pitches to the players (*suggested links are available at www.circula.fi*).

60-second pitch

Company name and team member introductions

What problem does the company solve?

Briefly describe the company: what, why, for whom, how?

How does the company use resources in accordance with the principles of the circular economy?

Why will customers choose you?

Conclusion – company slogan

Three-minute pitch

Company name and team member introductions

What problem does the company solve?

What is the company's solution (brief description of the product/service)?

What is the company's business model?

- Who are the company's customers? What is the benefit to the customer?
- What resources does the company use?
- How will the company make money? What is the price of the product/service?
- What makes your company an example of the circular economy? What circular economy business model, or models, do you implement?
- What makes you unique? Why will customers choose you?

What is your approach to marketing?

Who are your competitors?

What kinds of key competencies does the team have?

Conclusion – company slogan

If the teams have more than 10–15 minutes to spend on preparing the pitch, or if the pitch is delivered on a different day, the teams can prepare slides about their companies. However, the time limit for the pitches still applies.

Feedback on the pitch

Feedback is important! In Circula, feedback is provided by the other teams, the teacher(s)/instructor(s) and a jury, if one is present.

The teams take turns delivering their pitches and giving feedback to others. Distribute four feedback cards to the teams: "give praise", "ask a question", "challenge" and "make a suggestion". Each team member is given one card and the role it comes with. In teams with five members, two team members share one of the roles. Ask the feedback team to focus especially on commenting on the business idea. Of course, they can also compliment the quality of the pitch itself!



The purpose of feedback is to encourage and help the team

- by highlighting the strengths of the business idea
- by asking questions that provide added detail
- by challenging the team to identify potential risks or think more broadly or boldly
- by suggesting ways to complement or improve the business idea



Evaluation

For some, tallying points and declaring a winner are the most important part of the game, while others are not into competition. Circula can be concluded with verbal feedback or the tallying of points at the teacher’s discretion. In either case, the achievements of each team will be highlighted.

If the Game Master is the only instructor, he/she is also responsible for the evaluation. If there are several instructors involved, the other instructors are responsible for the evaluation. A jury can also be invited to hear the pitches. The members of the jury can be local entrepreneurs and circular economy experts, for example.

Feedback and points are given in three categories: the presentation, the team’s understanding of entrepreneurial activity and the circular economy. For three-minute pitches, the recognition of competencies is another criterion for evaluation. The evaluation criteria are listed on the evaluation form.

In each category, 10–50 points are awarded as follows:

10 or 20 points:	Potential for development: some deficiencies in content, the circular economy idea is not apparent, the presentation is not well rehearsed, the presentation does not engage the target audience.
30 or 40 points:	Good: the key information is covered, the circular economy as part of the business idea is apparent, the presentation is well rehearsed, the presentation engages the target audience.
50 points:	Excellent: the presentation is convincing and compelling, the presentation includes all of the necessary information and more, the team has understood the circular economy and incorporated it as an essential component of the business idea.

Give each team verbal feedback and an evaluation form with their scores written down. The team then adds any additional points they earned from completing the surprise task and cooperating with other teams. The points awarded for surprise cards range from zero to 50 points depending on the task. Cooperating with another team is always worth 20 points.

The jury may, at its discretion, award a further 50 bonus points in the following categories: the creativity of the pitch and the manner of presentation, team spirit, the innovativeness of the business idea and the circular economy spirit of the company.

Final discussion

The final discussion involves two perspectives: sharing the feelings that the game evoked and reflecting on what was learned.

Circula is a game that requires active involvement and putting one's personality on the line. This evokes an emotional response in the players. While these feelings are likely to be mostly positive, it is recommended that the players are given the opportunity to discuss their experience at the end of the game: was teamwork effective? What role did you take on in the team? Was the outcome of the game fair?

Discuss the knowledge gained from playing the game and the players' thoughts about the game. The discussion gives the participants the opportunity to ask questions on anything that might have been left unclear. It also gives the teacher the opportunity to correct any wrong impressions that may have emerged as well as observe the extent to which the learning objectives were achieved.

Time for reflecting on, building on and applying the lessons learned from the game should be allocated later, when the participants have had some time to organise the knowledge they acquired by playing the game. The final discussion serves as a transition to the continuum of learning.



Learning continuum

In secondary school, Circula can be incorporated into multidisciplinary learning modules. In upper secondary school, it can be incorporated into theme-based elective courses. In vocational schools and universities of applied sciences, Circula can be incorporated into studies in entrepreneurship and sustainable development, but it can also be used to support students' development of skills related to their specific fields of study. The game can be linked to entrepreneurship education, such as the programmes of Junior Achievement Finland.

Teaching content and methods for students at various levels have been developed in 2017–2019 with funding from Sitra. Links to these projects and other materials are available on the Sitra website at www.sitra.fi.

Vocational training and universities of applied sciences

Circular economy relates to studies in entrepreneurship and sustainable development, which can be a part of common degree content or studies in specific fields. With students in vocational schools and universities of applied sciences, the game should be linked to the participants' fields of study. You can find examples of companies and business models in the field in question. Possible sources include Sitra's list of "The most interesting companies in the circular economy" and the Technology Industries of Finland website. International company examples can be found on the Ellen MacArthur Foundation website.

The circular economy and responsible professionalism can also be incorporated into training organised at workplaces. The Ammatillaisen kädenjälki ("Professional's handprint") website at www.kädenjälki.fi (in Finnish) includes perspectives and content related to responsible professionalism and the circular economy.

Circula as a part of entrepreneurship education

The circular economy is a good fit within entrepreneurship education. The Circula game can be directly followed up by a Junior Achievement 24h Camp, where the participants refine their business ideas further by completing the camp assignments.

JA Finland's Company programme can use real-world surplus resources as the starting point: products, materials and facilities that are available locally. These types of resources can be found in your own school, your municipality and local companies. Circula can be used as an idea generation tool for JA entrepreneurship education activities.

"The young generations in entrepreneurship" by Economy and Youth TAT is a set of online business courses aimed at upper secondary schools that also includes the circular economy perspective.

Suggestion

Links and suggestions

Links related to entrepreneurship education and the circular economy are available on the Circula website: www.circula.fi.

The circular economy changes companies.
Companies change the world.

PLAY, LEARN, GET INSPIRED!

Circula

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