SECA
Sustainable Entrepreneurship for Climate Action

SUSTAINABLE ENTREPRENEURSHIP FOR CLIMATE ACTION

Digital Handbook on How to Innovate Sustainable Start-Ups and Businesses for Climate Action

Co-funded by the European Union

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ABOUT THE PROJECT

SECA: Sustainable Entrepreneurship for Climate Action

The SECA project addresses climate change challenges and aims to increase green skills and competencies in sustainability among current and aspiring entrepreneurs. This handbook provides methodology and step-by-step guidance to help entrepreneurs and start-ups create sustainable and climate action focused business solutions.

This handbook was collaboratively created by the project partners and co-funded by the European Commission.

Project partners:

- Lapland University of Applied Sciences, Finland
- FH Aachen University of Applied Sciences, Germany
- Turiba University, Latvia

INTRODUCTION

Welcome to SECA Guide, the digital handbook on innovating sustainable start-ups and businesses for climate action! This guide empowers educators, students, entrepreneurs, and businesses with the knowledge and tools necessary to create and develop sustainable business ideas and models.

In this handbook, you will find a comprehensive methodology that walks you through the process of innovating and building sustainable businesses aligned with climate action (CA).

How does the handbook work?

- First, we establish the foundation of the concepts of Sustainable Development Goals (SDGs) and Climate Action, provide insights into sustainable entrepreneurship, its significance, and their interplay with SDG 13 on Climate Action.
- In the next part we offer a clear roadmap for creating Climate Action-focused businesses. We will provide you with a step-by-step plan and practical tools to help you develop start-ups that address challenges related to climate change.
- In each part of the innovation journey you will be introduced to the method or tool, with defined learning goals. You will learn the steps of the process and understand what you will achieve at the end of each step.
- You will also complete small tasks, following instructions, systematically progressing from one step to the next through workbook tasks.
- Additional reading material, videos, case studies and workbook templates are linked to expand your knowledge.

 HOW DOES THE HANDBOOK WORK?

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CHAPTER 1

SUSTAINABLE ENTREPRENEURSHIP FOR CLIMATE ACTION – WHAT IS IT?

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UNDERSTANDING SUSTAINABILITY

The United Nations presents a widely accepted definition of sustainability within the framework of sustainable development. Sustainability is the practice of meeting the needs of the present without compromising the ability of future generations to meet their own needs. It emphasizes the importance of responsible resource use, environmental preservation, and equitable development to ensure a better future for all (UN, 2023).

United Nations https://sdgs.un.org/goals

Sustainability is often broken down into three core parts: **economic**, **environmental**, and **social.** These are also referred to as **ESG** (Environmental, Social, and Governance). ESG represents the factors used to measure how well a company handles its impact on the environment, treats people fairly, and manages its operations responsibly. In business settings, sustainability frequently strives to safeguard natural or physical resources, ensuring their availability for future generations.

UNDERSTANDING SUSTAINABLE ENTREPRENEURSHIP

In general terms, entrepreneurship means starting and running your own business or project. Entrepreneurship involves the process of

- identifying opportunities
- developing innovative ideas
- taking calculated risks to create and manage a new business or venture

Entrepreneurs often navigate challenges, adapt to changing circumstances, and seek out opportunities for growth.

Sustainable entrepreneurship ensures that a business not only makes a profit but also takes care of people and the planet. Sustainable entrepreneurship is a business model in which the company seeks to create value by addressing **social, environmental needs, while sustaining economic gains..** Sustainable entrepreneurs focus on creating products and services that have a positive impact on the environment, while also providing economic benefits. Sustainable entrepreneurship is often referred to also as **social entrepreneurship.**

SUSTAINABLE ENTREPRENEURSHIP - WHY IS IT IMPORTANT?

Sustainable entrepreneurship is crucial today, because it aligns business success with long-term societal and environmental well-being, fostering positive impact.

The future belongs to sustainable entrepreneurs - they are the driving force behind innovative solutions that balance economic prosperity, social equity, and environmental leadership.

As global challenges like climate change intensify, sustainable entrepreneurs hold the key to creating resilient businesses that contribute positively to society and the environment.

10

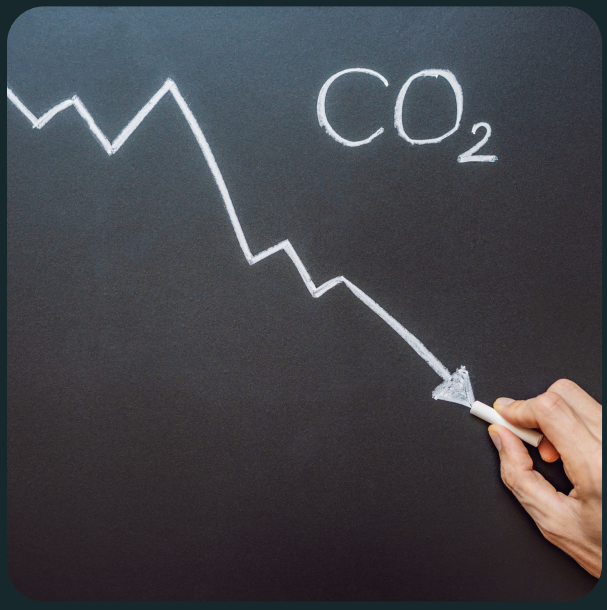
10 MILLION TONS A YEAR OF PLASTIC WASTE IS DUMPED INTO OCEANS

92

92% OF WHAT WE TAKE FROM THE EARTH IS WASTED

45

AIM OF CA: TO REDUCE C02 EMISSIONS 45% BY 2030 TO REACH NET-ZERO EMISSIONS BY 2050



SDG #13 CLIMATE ACTION

SDG #13 Climate Action is a call to take urgent action to combat the climate change and its impact on our planet. In 2015 the United Nations designed 17 Goals as a call to action to end poverty and protect the planet. These Sustainable Development Goals (SDGs) are meant to ensure that by 2030 everyone around the world can enjoy peace and prosperity. The SDGs place emphasis on climate action because climate change is a real threat to our entire civilization. The effects are already visible and will be catastrophic unless we act now.

WHY DOES SUSTAINABLE ENTREPRENEURSHIP MATTER?

THE ROLE OF ENTREPRENEURS IN CLIMATE ACTION

Entrepreneurs play a crucial role in addressing various climate challenges by bringing innovative solutions to the table. For example they can create more efficient ways of producing energy, managing waste, and reducing carbon emissions. They can promote the concept of a circular economy, where products and materials are designed to be reused, repaired, and recycled, minimizing waste and resource consumption. They contribute to the development of green infrastructure, such as sustainable transportation systems or green buildings and many other. Thus we look at the climate action as a source of innovative opportunity to transform the way we set up and run businesses.

WORKBOOK

THINKING AND ACTING SUSTAINABLY

Review your daily sustainable practices that contribute to Climate Action:

- **Recycle** paper, glass, plastic, metal and old electronics
- **Choose** reusable products. Use an eco-bag for shopping and a reusable water bottle or a cup to reduce your plastic waste
- **Buy** eco-friendly products. Read the packaging to see if products are produced in an eco-friendly way
- **Bike**, walk or take public transport
- **Consume** less meat and eat vegetarian for one day a week
- **Reduce** your use of paper. Avoid printing and substitute it with electronic devices
- **Engage** in additional sustainable activities not covered in this list.

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CHAPTER 2

HOW TO BUILD SUSTAINABLE ENTERPRISES FOR CLIMATE ACTION

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WHAT DOES IT MEAN TO ACT FOR CLIMATE?

Climate action refers to the efforts and initiatives taken to address and mitigate the impacts of climate change. It involves a wide range of actions at the individual, community, national, and global levels to reduce greenhouse gas emissions, adapt to changing climate conditions, and promote sustainability. Climate action includes measures such as transitioning to clean and renewable energy sources, implementing energy-efficient technologies, conserving natural resources, protecting ecosystems, and raising awareness about the importance of climate change. Entrepreneurs and start-ups can also be considered a solution to climate change.

CLIMATE ACTION AS A SOURCE FOR INNOVATIVE BUSINESS IDEAS

Climate change is considered a negative phenomenon, but at the same time it can serve as a source for innovation in the business world. There are plenty of opportunities to take action - in renewable energy, energy efficiency, carbon reduction technologies, climate data and analytics, sustainable agriculture, the circular economy, climate adaptation solutions, green finance, clean transportation, and carbon offsetting services, among others. Businesses that embrace these opportunities can not only contribute to addressing climate change but must also tap into growing markets driven by environmental awareness, making climate action a source of innovation and sustainable business development. Every little effort can have a significant impact!

"ONE DROP MAKES AN OCEAN"

BUILDING A CLIMATE ACTION START-UP

1 IDEATION WITH PROBLEM-SOLUTION TREE

ESTABLISH CORE PROBLEM
DEFINE ROOT-CAUSES
FIND SOLUTIONS TO PROBLEMS

2 BUSINESS IDEA WITH SUSTAINABLE BUSINESS IDEA - MODEL

DEFINE 3 BUSINESS PROPOSALS
IDENTIFY PRODUCTS OR SERVICES
CONDUCT SUSTAINABILITY ASSESSMENT
SELECT A START-UP IDEA

3 VALUE PROPOSITION WITH DESIGN THINKING

EMPATHIZE -DEFINE - IDEATE -PROTOTYPE - TEST

4 CIRCULAR BUSINESS MODEL WITH 5R CANVAS

RETHINK - REDUCE - REUSE - RECYCLE - RECOVER

1 ACTION STEP 1 IDEATE A NEW BUSINESS WITH THE PROBLEM SOLUTION TREE

Start to generate potential business ideas for climate action through systematic exploration of the root causes and analysis of climate change problems. Only when you have a detailed understanding of the original root causes of climate change-related issues can you search for solutions in specific, defined areas. Defining potential solutions based on problem analysis should lead to original, innovative business ideas. The core method used here is the **Problem-Solution Tree method**.

Outcome: At the end of this action step you have defined solutions to problems related to climate change.

ACTION STEP 2 CREATE A BUSINESS PROPOSAL WITH THE SBI MODEL 2

The Sustainable Business Idea Model (SBI) is a tool that helps develop a business idea by assessing the sustainability factors of your business proposal. Consider a new product or service that your business offers and evaluate its potential economic, social and environmental impact.

Outcome: At the end of this action step you have a new sustainable business idea proposal.

ACTION STEP 3
CREATE A SUSTAINABLE VALUE PROPOSITION WITH DESIGN THINKING 3

In the first and second action steps you came up with some innovative business ideas that address the climate change. In this part the focus will shift to the potential **user** or **customer**. Your aim is to create a user-centered sustainable value proposition. You will create a product that the user wants allso for its sustainable characteristics. It is produced sustainably or has a significant positive impact on the climate, creating sustainable value. You will apply **Design Thinking** methodology to create sustainable value for the user.

Outcome: At the end of this action step you have a clearly defined, user-centered sustainable value proposition.

4 ACTION STEP 4
BUILD A CIRCULAR BUSINESS MODEL WITH THE 5R CANVAS

As you are building a start-up based on your climate action idea with a sustainable value proposition, it is a good idea to build your start-up following the circularity principles. This means that when designing your product or service you should prioritize durability, repairability - enabling reuse - and the use of recycled or sustainable materials in your business processes. Use the **5 R Circularity Canvas**.

Outcome: At the end of this action step you have a 5R circular business model canvas for your business idea.

NEXT STEPS

The handbook guides you in the complex process of sustainable business idea development. To launch your start-up, consider these follow-up steps that include business planning, implementation and monitoring. Always keep sustainability in mind!

Outcome: Overview of business planning steps

SUSTAINABLE ENTREPRENEURSHIP AND CIRCULAR ECONOMY

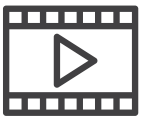
CLIMATE ACTION - SOURCE FOR INNOVATION

WORKBOOK

BUILDING A CLIMATE ACTION START-UP

Review the core actions towards a sustainable start-up:

- **Action 1** - Ideate a new business with problem solution tree
- **Action 2** - Create a business proposal with the SBI model
- **Action 3** - Create a sustainable value proposition with design thinking
- **Action 4** - Build a circular business model with the 5R canvas
- **Next steps** - Create a business plan and launch the business



HOW TO BUILD SUSTAINABLE ENTERPRISES FOR CLIMATE ACTION

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CHAPTER 3

TAKE ACTION 1

IDEATE A BUSINESS FOR CLIMATE ACTION WITH THE PROBLEM SOLUTION TREE

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PROBLEM SOLUTION TREE

INTRODUCTION TO THE METHOD

The Problem Solution Tree (PST) is a tool used in problem-solving and decision-making to identify and analyze potential solutions to a problem. It is a method for solving the Sustainable Development Goals (SDGs) used by the United Nations.

The PST is a visual representation of the problem, with the main problem at the top of the tree and potential solutions branching off of it. The PST is used to break a problem down into smaller, more manageable components, and then to analyze each component to determine the best solution.

The method is based on the principle that problems are caused by underlying factors, and that by understanding these root causes, it is possible to develop effective solutions.

These solutions can be turned into business ideas or social enterprises.

Learning goals – at the end of this workshop you will have a new idea for a sustainable business that solves climate change issues.

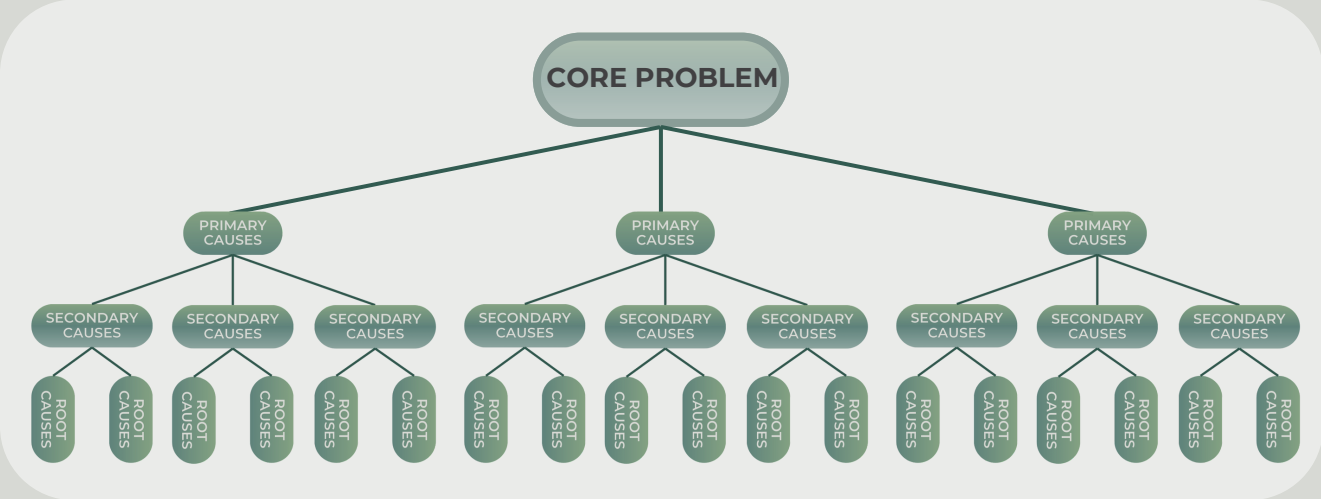
PROBLEM SOLUTION TREE

INTRODUCTION TO THE PROCESS

The process of PST method follows ten steps. They include the core problem statement and further analysis of the root causes of the core problem.

The core problem is placed in the middle of the worksheet. Five main or primary root causes are then defined using the question “why” – answering why this problem exists.

Once five primary root causes are established, the secondary causes of primary root causes are examined following the same question “why does this particular (primary) cause exist?”.



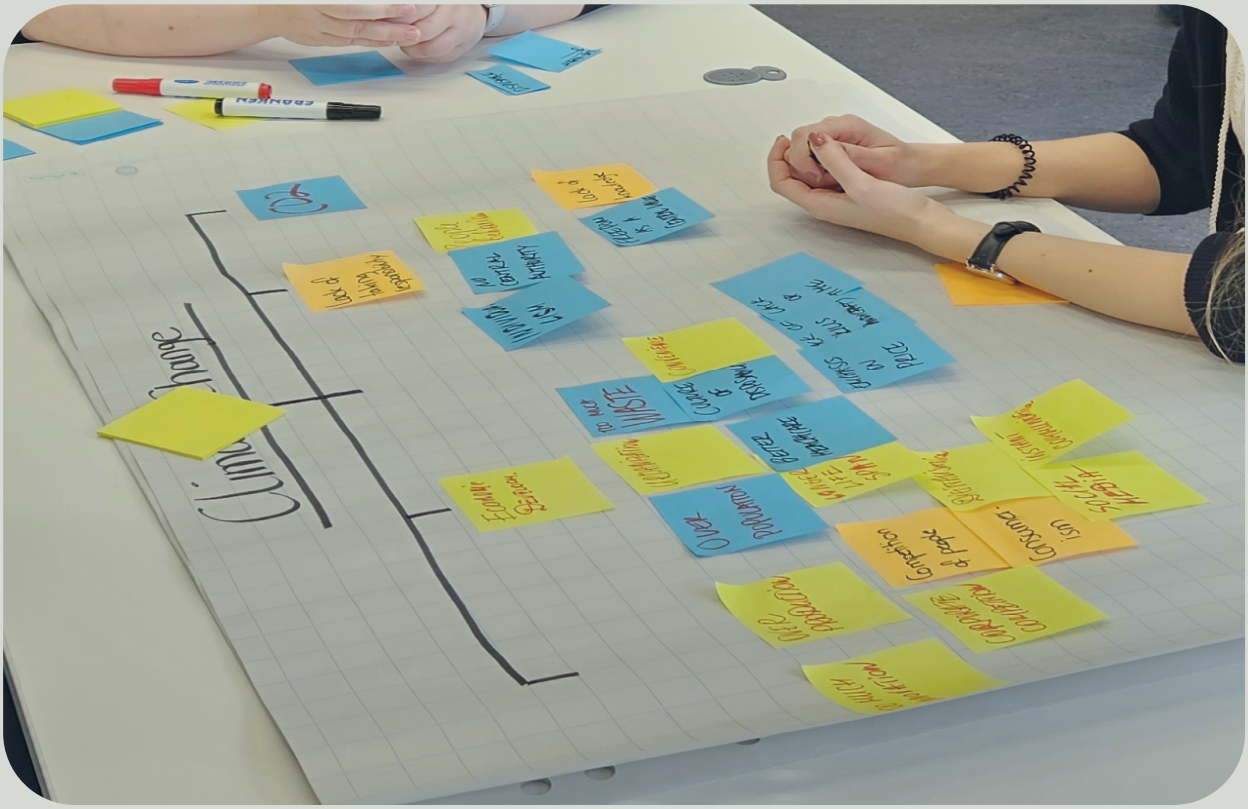
As a result of this process, a root cause analysis of the core problem is projected in the form of tree roots. After this, the effects of the root causes are analyzed and placed above the core (central) problem.

Next, the problems and causes of the tree are turned into solutions, and the problem tree is turned into a solution tree.

INTRODUCTION
TO THE METHOD

Result: the outcome of this step is

- a problem tree and a solution tree – a mind map in the form of a tree with a detailed cause-and-effect analysis of a core problem (climate change) and its solutions
- in-depth understanding of the problem
- realistic and justified solution to the problem of climate change
- a business idea that addresses climate change



HOW THE PROBLEM SOLUTION TREE METHOD CAN HELP US REACH SUSTAINABLE DEVELOPMENT GOALS?

STEP-BY-STEP INSTRUCTIONS TO CREATE A **PROBLEM TREE**

1 DEFINE THE **CORE PROBLEM**

Time: 15 min

Result: Identified core problem for further analysis.

Question: What is the climate change -related core problem that I would like to analyse?

Description: To begin, you need a central problem that you want to analyse, to understand the root-causes of. You can place “Climate change” as a central, first problem in the middle of the problem tree template.

ANALYSE THE **PRIMARY CAUSES** OF THE CORE PROBLEM WITH 5 X WHY 2

Time: 1h

Result: Identified primary root causes of the core problem.

Question: What are the primary causes of the core problem, why does it exist and what are the secondary causes?

Description: This is the first level of root-causes on a problem tree. Ask five times ‘why this problem exists’ – what are five key direct and immediate causes of this central problem? Define five causes of the core problem.

Note: Remember that causes always have a negative connotation.

3 ANALYSE THE **SECONDARY CAUSES** DIRECTLY LINKED TO PRIMARY CAUSES

Time: 15 min

Result: Identified secondary root causes of the core problem.

Question: What are the secondary causes of each previously defined primary cause?

Description: This is the second level of the problem tree. Each primary cause is analyzed separately, and the roots of the tree are further extended downward. Continue asking ”why” - why do the selected primary causes exist? You can limit your analysis to ”3 why” for each primary cause.

ANALYSE THE **ROOT CAUSES** OF THE SECONDARY CAUSES WITH 2 X WHY 4

Time: 15 min

Result: Identified root causes of the core problem.

Question: What are the root causes of each previously defined secondary cause?

Description: This is the third level of root-cause analysis. Each secondary cause should be further analysed with ”2 x why” questions to define the causes of the problems identified on the second level.

Tip!

Question: How detailed should the problem tree be?

Answer: The more details you provide the better your solution to the existing problem. For the purposes of this step, develop 5 horizontal branches and work 3 levels down. Be realistic – take time constraints into account.

STEP-BY-STEP INSTRUCTIONS TO CREATE A **SOLUTION TREE**

Follow these steps to set up the solution tree.

By completing the problem tree, you gain a comprehensive understanding of the root-causes of the core problem. Now your task is to find a solution to the problems identified. For that purpose you will create the solution tree mind map.

How to do it? Turn all the negative statements in all the boxes or post-it notes on the problem tree into positive statements!

1 TURN THE CORE PROBLEM STATEMENT INTO A **SOLUTION STATEMENT**.

Time: 15 min

Description: The negative problem statement needs to be reformulated into positive statement. Assuming that your central starting problem was “Climate Change”, you can reformulate it as “Climate change slowed down” or “Climate change impact reduced”, for example.

TURN **PRIMARY** CAUSES STATEMENTS INTO **POSITIVE SOLUTION** STATEMENTS 2

Time: 15 min

Description: Turn all five first level causes or problem statements into positive statements, write them as assumptions that the problem is solved. For example, if one of your primary causes was formulated as “Deforestation”, this problem can be reformulated into a positive assumption as “Restoration of forests”.

3 TURN **SECONDARY CAUSES** INTO **POSITIVE SOLUTION STATEMENTS**

Time: 15 min

Description: Continue with the reformulation of negative problem statements into positive statements for each post-it of your tree.

TURN **ROOT-CAUSE** STATEMENTS INTO **POSITIVE SOLUTION STATEMENTS**. 4

Time: 15 min

Description: The third level of root-cause analysis also needs to be transformed into positive solution statements, as with the two previous levels.

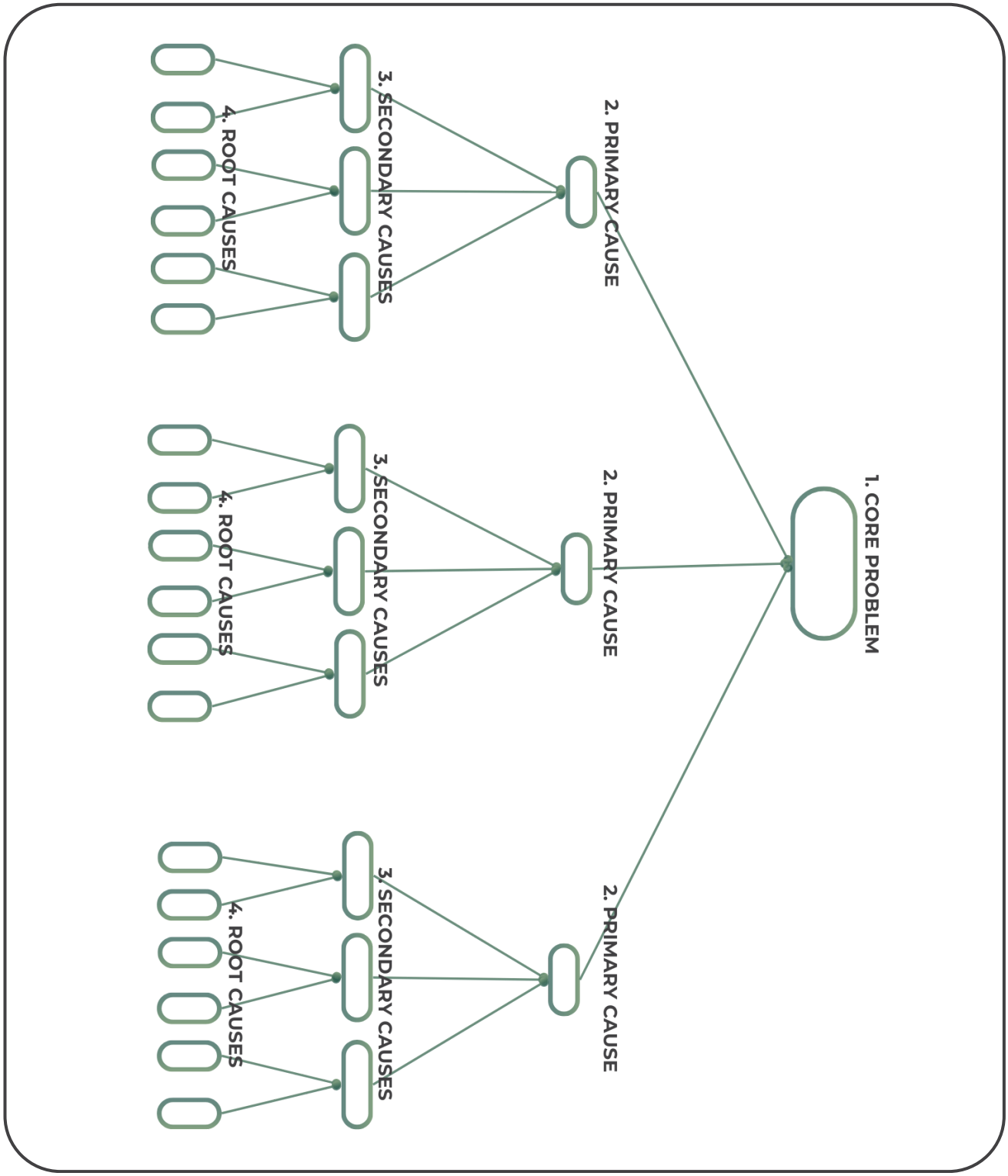
THE PROBLEM SOLUTION TREE METHOD

Note: Solution tree is mirroring all the problems as solutions.

WORKBOOK

CREATING A PROBLEM TREE

Problem tree template



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CHAPTER 4

TAKE ACTION 2

CREATE A BUSINESS PROPOSAL USING THE SUSTAINABLE BUSINESS IDEA MODEL

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TURNING SOLUTIONS INTO POTENTIAL
START-UP BUSINESS IDEA

The Sustainable Business Idea - model (SBI) is a tool that helps develop a business idea with sustainability at its core. Using the problem tree and the solutions chosen by your team, pinpoint potential undertakings or start-up business ideas. What could be the business, based on the solutions created, and what kind of products or services could be offered? Remember that we are focusing on sustainable business development and therefore our ventures follow the Sustainable Business Idea (SBI) -model approach.

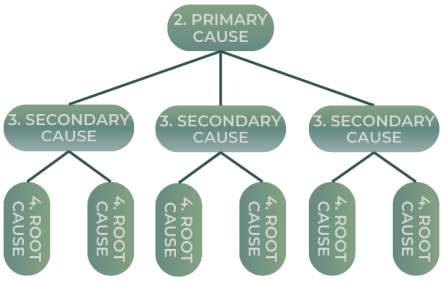
Time: 1h

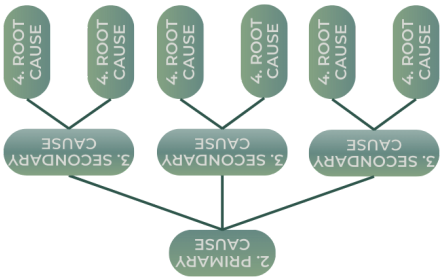
Result: A new sustainable business idea proposal

Question: What kind of a sustainable business could be created to bring your problem tree solutions to life?

1 DEFINE 3 BUSINESS **PROPOSALS**

Review your solution tree and the branch you selected as the core for developing a solution. This branch has three sub-branches (3 different solutions). Consider what kind of a business idea could be created based on each of the 3 branches. Thus develop 3 potential business proposals.





Use the problem solution tree to fill in the template:
Problem (from selected branch of problem tree) -Solution (from selected branch of solution tree) - 3 possible business proposals.

	PROBLEM	SOLUTION	BUSINESS PROPOSAL
IDEA 1			
IDEA2			
IDEA 3			

IDENTIFY **PRODUCTS OR SERVICES** FOR A START-UP 2

List the services or products that could be part of each business idea.

Assess the feasibility and profitability of the business ideas:

- Make an assumption - are people willing or prepared to pay for your solution?

Rate your answers from 1-5, 1 being the lowest and 5 the highest score.

	PRODUCTS OR SERVICES THAT WOULD BE A PART OF THE BUSINESS IDEA	ASSESS FEASIBILITY (HOW REALISTIC IS IT FROM 1 TO 5)	ASSESS PROFITABILITY (HOW CAN WE MAKE MONEY WITH IT/PRODUCT/SERVICE)	ARE PEOPLE WILLING/PREPARED TO PAY FOR THE SOLUTION?	TOTAL SCORE
IDEA 1					
IDEA2					
IDEA 3					

3 SUSTAINABILITY ASSESSMENT

The final step of your start-up is to evaluate its sustainability context. First of all assess the ESE gains of the proposed business idea:

E Economic – what are the economic gains of your business idea?

S Social – what is the social impact of your business idea?

E Environmental – what is the environmental impact of your business idea?

E S E	ECONOMIC	SOCIAL	ENVIRONMENTAL	SUSTAINABILITY VALUE OF THE BUSINESS IDEA SCORE 1 (LOW VALUE)-5 (HIGH VALUE)	TOTAL SCORE/RATING FOR THE MOST SUSTAINABLE BUSINESS IDEA
IDEA 1					
IDEA2					
IDEA 3					

SELECT A SUSTAINABLE **START-UP IDEA** 4

The following step is to select the best business proposal based on your team's discussion. After considering both your assessment score and the ESE assessment, choose the most suitable business proposal. Then, craft a final statement about the chosen business proposal:

Statement for business proposal _____

The business ideas we selected is _____

Due to (reasoning) _____

5 PREPARE **THE PITCH** OR **STATEMENT** OF YOUR SUSTAINABLE START-UP IDEA

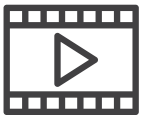
Include the following in the statement.

Our sustainable start-up idea is _____

We created solutions to the problem branch of _____

Based on the solutions we proposed the following three business ideas _____

Considering the assessment criteria and ESE we came up with the following start-up idea _____



EXAMPLE: HOW TO USE THE "PROBLEM TREE" METHOD TO CREATE A SUSTAINABLE BUSINESS PROPOSAL

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CHAPTER 5

TAKE ACTION 3

DESIGN A USER CENTRIC SUSTAINABLE VALUE PROPOSITION WITH DESIGN THINKING

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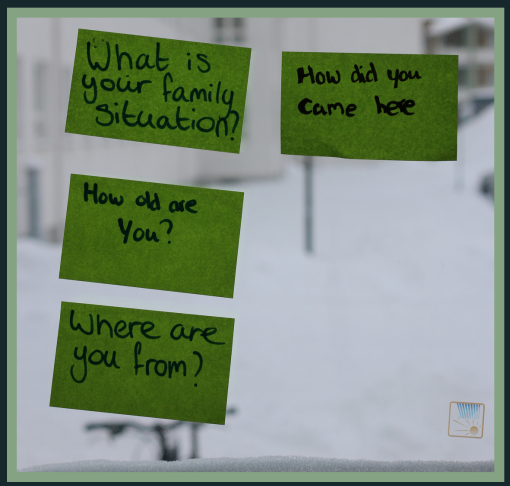
DESIGN THINKING

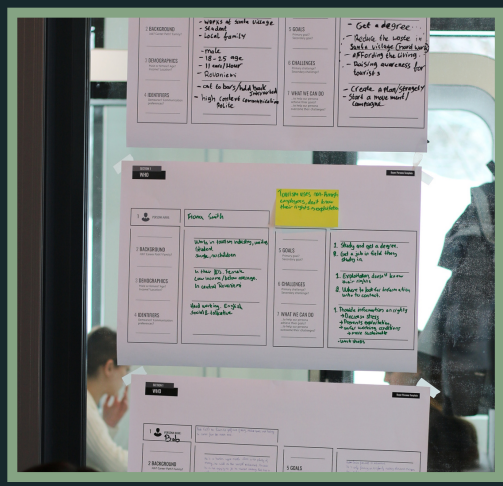
INTRODUCTION TO THE METHOD

Design thinking is an iterative method to solve complex problems in a user-centered way. Originally developed for the design industry, the method has since proven itself and is also valued in other areas.

Design thinking is a useful way to generate innovative business ideas and it offers a structured approach to look at problems from new angles and develop creative solutions. It involves working in interdisciplinary teams and weighing up feasibility, cost-effectiveness, and desirability. It entails working in an agile, descriptive way and with enough room for creativity.

In several phases, the process leads you from your previously identified problem to a solution that is feasible and adapted to the needs of the user.



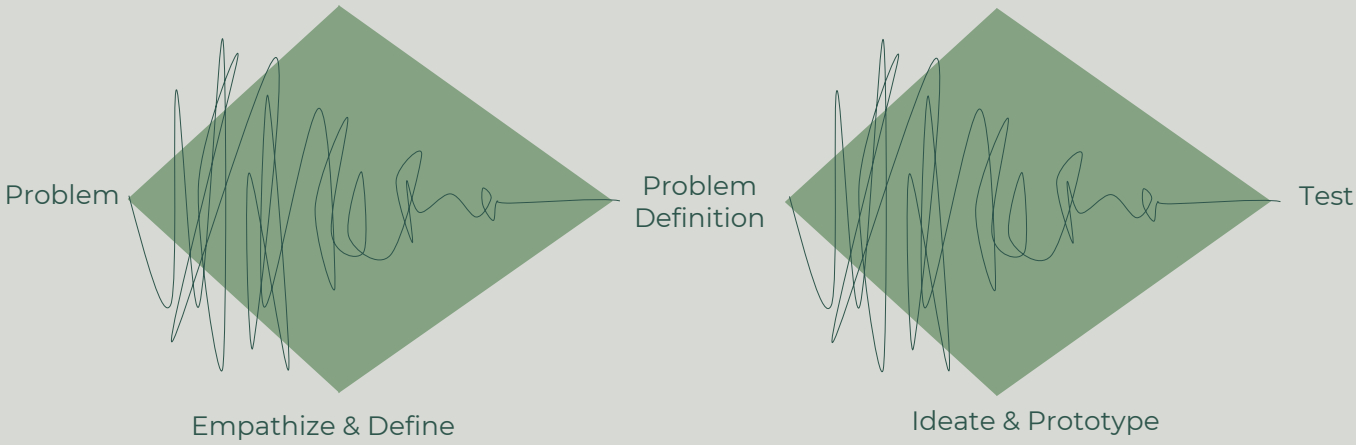


Learning goals – At the end of the process, you have a mature idea that solves a real problem, and you know how to implement it.

INTRODUCTION
TO THE PROCESS

Design Thinking (DT) is a systematic approach to developing user-centered products or services. Up to this point, you have identified a problem, proposed solutions for climate action through a new business idea. In this phase, the focus shifts to understanding the needs of potential users (customers) and the market demand for your product or service. The aim is to create a sustainable value proposition for the user. DT is an iterative process of five phases (empathize, define, ideate, prototype and test), that allows continuous improvement by revisiting and learning from feedback, experiences, and mistakes. DT process is usually conducted in teams.

Diamond model

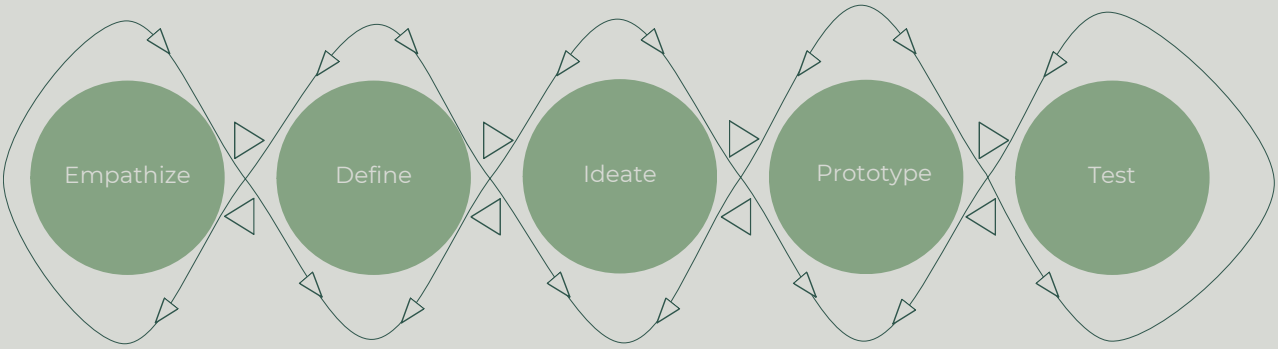


The process is outlined as a diamond model, distinguishing between two parts: idea generation and idea selection. In the idea generation part, new ideas are developed. It involves stepping out of one's comfort zone, exploring various perspectives, and generating a multitude of new ideas to address a given problem. The idea selection phase involves narrowing down and prioritizing ideas. Criteria such as needs, functionalities, and potential solutions are used to focus and select the most promising concepts or solutions. There are two diamonds. The first diamond represents the problem area, at the end of which you have a clearly defined problem. In the second diamond, suitable solutions are worked out.

STEP-BY STEP INSTRUCTIONS TO
DESIGN THINKING

Follow the five step process. Begin with "Empathize” to deeply understand the users' needs. Then "Define" the problems articulated by users. Continue with “Ideate" phase, generating a variety of solutions. Proceed to ""Prototype and test," to gather user´s feedback and through “Reflection” refine your solutions iteratively.

Process / phases



1 EMPATHIZE

Time: 7 h (1. 1 h, 2. 3 h, 3. 3 h)

Task:
1. Define the target group for your product or service.

2. Understand your users and their needs and problems through user research.

3. Analyse the market (demand, stakeholders in the sector).

Result: defined target group with various problems and needs of the users.

Useful material:

T1 and T2. Empathy Map, Persona creation, Market research (e.g. interviews or surveys), AIEOU method, Job-to-be-Done, Customer Journey Map, Value Proposition

T3. comparison table, 5-Forces, SWOT method

2 DEFINE

Time: 4h

Task: Define the problems from the user´s point of view based on the information collected and the knowledge from the previous phase.

Result: A precisely formulated problem statement.

Useful material: Build ideas on ideas, Clustering, 2x2-Matrix, Context Mapping, How might we question

3 IDEATE

Time: 7 h (T1. 2 h, T2. 4 h, T3. 1 h)

Task:
1. Generate ideas and solutions for the product by thinking “outside the box” (note: ideas , not requirements for the product, should be expressed).
2. Further develop the ideas.
3. Choose an idea that you would like to explore further.

Result: A mature, user-centered, economically feasible and realistic idea.

Useful material:
T1. Brainstorming, Moodboard, Research and trend analysis
T2. Build ideas on ideas, morphological box, NABC
T3. Benchmarking, decision matrix, pros and cons list

Time: depends on the type and complexity of the prototype

Task: Build a prototype that can be used for testing. This does not necessarily have to be functional or built in the correct size or with the right material at first.

1. Select a version of the prototype (sketch, form model, functional model, demonstration model, MVP)

2. Build a prototype with low-cost materials (e.g., paper and cardboard)

3. Test with the team involved in this DT process and collect feedback

4. Optimize the prototype based on feedback

5. Test and collect feedback from potential users

6. Optimize the prototype based on feedback of the users

Tasks three and four, as well as five and six should be repeated as often as necessary. Through every round of observation or feedback you can get new ideas for optimization.

While testing, it is important to carefully observe the user´s behavior and to take notes. In order to create a realistic testing environment explain to the user as little as possible about the prototype of your product.

Result: A prototype that is tested with users

Useful material: For Testing: A/B-Testing, Wizard-of-Oz-Experiment, Feedback-Capture-Grid, solution interview

Iterate on the solutions and ideas by incorporating the feedback of users

5 REFLECT

Time: 2 h

Task: Take a moment to consider both your team's collaboration process and the outcomes achieved thus far. Ask questions: what works well and what can be improved? You should use this step at least at the end of the process, but you can also use it at any time to make your work more effective.

Result: Suggestions for improvement for further work together.

Useful material:
Feedback-Capture-Grid, Five-Finger Feedback, write down your lessons learned

WHAT IS THE DESIGN THINKING METHOD?

THE PROCESS OF DESIGN THINKING

In the next page you will find a Design Thinking example for a “Wallet case”

WALLET CASE
EXAMPLE

TASK 1

EMPATHIZE

1. Form pairs: an interviewer and an interviewee who takes the role of the potential customer. Spend a few minutes trying to put yourself in the customer's place and personality.

2. The potential customer takes out their wallet and the interviewer starts discussing it, asking questions (for example, "Do you use it differently when you travel internationally?"; "What items do you take out most often?").

3. Afterwards, you switch roles and play through the whole thing again.

TASK 2

DEFINE

After you understand the customer's view of the wallet, you should record these findings.

1. First collect all the findings (needs, shortcomings, wishes, etc.).

2. Finally formulate a concluding sentence. An example of its structure: "My customer needs a way to ... [user needs] ... in a way that gives him a sense of ... [meaning/emotion] ... [because] ... [insight]."

TASK 3

IDEATE

1. Everyone brainstorms some concepts of what the new wallet could look like, these can be physical or digital. You can first think about it by yourself for a short time and then exchange ideas with others and add new ideas to existing ones.

TASK 4

PROTOTYPING AND TESTING

1. Try to implement your idea in the form of a prototype. The prototype does not have to be fully developed, the main thing is that the idea behind it becomes clear.

2. Show your prototype to someone not a part of the process previously, and observe and listen to what they say about your idea. It is important that you do not explain anything.

3. Typically, you would now use the feedback to optimize your idea and prototype. However, for the understanding of the process within this case study, you can leave this step out.

WORKBOOK

CHECKLIST

	CHECKLIST WITH QUESTIONS	COMMENTS
EMPATHIZE	Have we defined our target group? Have we understood what the needs and wishes of our users are? Have we used market analysis to find out what demand, stakeholders or similar products exist?	
DEFINE	Have we understood what problems users have in relation to our idea?	
IDEATE	Have we developed a variety of new solution ideas and really thought out of the box? Have we decided on an idea after intensive brainstorming?	
PROTOTYPING AND TESTING	Have we developed an initial prototype? Have we tested our prototype sufficiently? Have we implemented the collected feedback and further developed our idea and the prototype? Have we repeated the steps often enough and really optimized our idea and the prototype?	
REFLECT	Have we worked well together as a team or have we identified and discussed potential opportunities for improvement? Are we satisfied with our results or have we also identified suggestions for improvement?	

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CHAPTER 6

TAKE ACTION 4

BUILD A CIRCULAR PRODUCT WITH THE 5R CIRCULARITY CANVAS

5R CIRCULARITY CANVAS

INTRODUCTION TO THE METHOD

Time: 1h

Result: 5R circularity canvas with a strategy for product circularity.

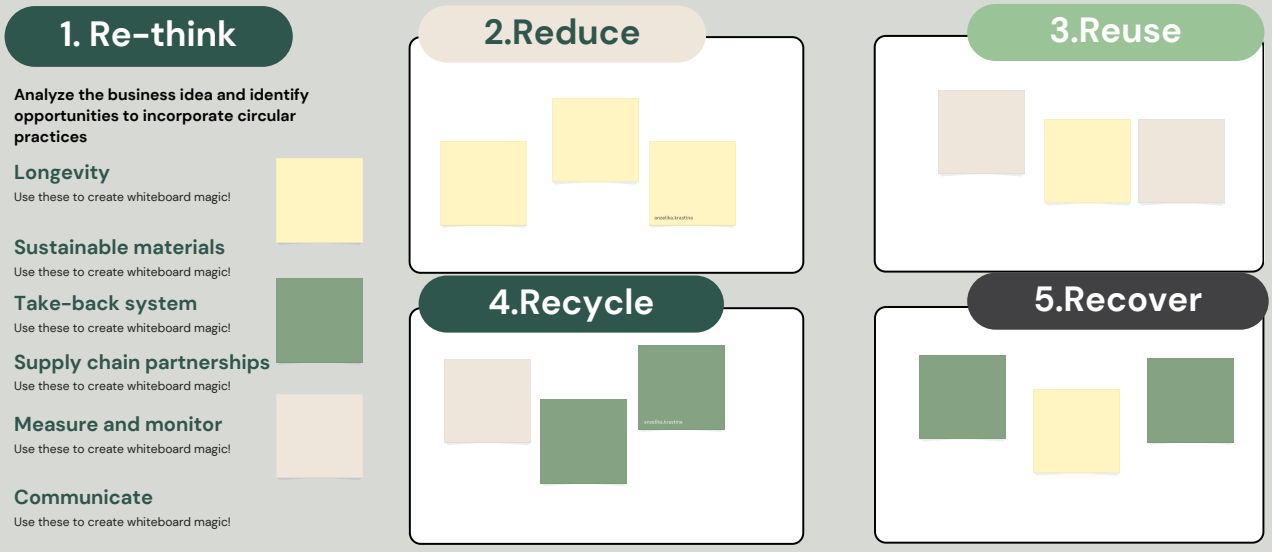
Questions to be answered: how to create a sustainable product by following the approach of reducing, reusing, recycling and recovering?

INTRODUCTION
TO THE METHOD

The 5R circularity or zero waste approach involves adopting principles that prioritize reducing, reusing, recycling, recovering, and re-thinking resources and products within the production and consumption cycle. This strategy aims to minimize waste generation, optimize resource utilization, and create a sustainable, closed-loop system where products are designed for longevity, easy disassembly, and material recovery. Thus the approach minimizes environmental impact and fosters economic resilience by conserving resources and reducing disposal costs.

The 5R circularity canvas is a method that provides a structured framework to ensure that each step of the circular product development process is considered and addressed. It allows easy tracking of progress and encourages a comprehensive approach to sustainability in product development.

The 5R circularity method



STEP-BY-STEP INSTRUCTIONS TO
5R CIRCULARITY CANVAS

1 RE-THINK

Re-think the traditional product development process and instead of a linear ”take-make-dispose” approach consider the circularity of the product from the beginning of its development.

You should consider the resources, the production and consumption cycle for the longevity of the product, by creating sustainable and more durable products, promoting the culture of recycling. What sustainable materials will you use?

Consider sustainable supply chain partners. Ensure monitoring processes for circularity. How will you communicate the circularity of your product to stakeholders?

Write several ideas on how you see it could be done. Add post-it notes in the Re-think part of the canvas.

2 REDUCE

Develop ideas on how to reduce the environmental footprint of the product. How do you plan to optimize the product design for resource efficiency and lightweight construction? Add post-it notes in this part of the canvas.

3 REUSE

When designing the product come up with ideas with reuse in mind. Generate ideas on how to make the product modular, easily reparable and easily disassembled and upgraded. How can we establish mechanisms for customers to return and exchange products for refurbishment or upgrades? How can we implement take-back programs for end-of-life products? Add post-it notes in this part of the canvas.

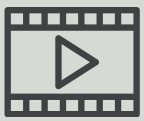
4 RE-RECYCLE

Consider if the materials used in the product are recyclable? Have you designed for easy recycling? Identify the partners with recycling facilities with whom you could collaborate. What kind of a recycling program you could create within your company? Add post-it notes in this part of the canvas.

5 RECOVER

Ideate - are there ways to recover valuable components or materials from products that can't be reused or recycled? There are companies that recover valuable materials from used products. For example, they recover metals from old appliances or plastics from discarded products, and then recycle these materials to create new products. What are the end-of-life options, what could be your actions to minimize landfill waste and promote responsible disposal practices? Add post-it notes in this part of the canvas.

WHAT IS CIRCULAR ECONOMY?



CIRCULAR ECONOMY - INDUSTRY EXAMPLES

Circular economy is a tool to combat climate change

RE-THINK

THE BUSINESS MODEL

As you have completed all of the 5R steps, return to the Re-think step to re-consider traditional business processes. Instead of linear "take-make-dispose" approach, develop a business model that considers and incorporates sustainability factors and circularity principles. Use the Green start-up Canvas (GSC) to consider all possible angles for sustainable business development. Create the GSC by filling in the canvas template and adding notes.

WRITE YOUR BUSINESS IDEA (Product/Service)

1. Customer Segments

- Who is your target market interested in sustainable products?
- List the groups that you expect to use your product.
- Add notes here

2. Sustainable Value Proposition

- What need or problem are you trying to address? What sustainable value will your product bring to the target audience?
- Add notes here

3. Channels

- Where will your product be available? List the ways you plan to reach your target audience and how you take sustainability into account in delivery?
- Add notes here

4. Customer Relationships

- What relationships will you establish with each customer segment?
- How do you communicate your sustainability?
- Add notes here

5. Revenue Streams

- How will you generate income? Present a pricing model of your product or service and include other revenue sources, such as sales and subscription fees. How is ROI considered in terms of sustainability?
- Add notes here

6. Key Activities

- What are the tasks and activities to keep the business running every day?
- How these tasks or activities incorporate sustainability and circularity?
- Add notes here

7. Key Resources

- What are the tangible and intangible things you will use to make the product?
- How do you consider sustainability in resource use?
- Add notes here

8. Key Partners

- Whom will you work with to run the business - name partners?
- How will you use sustainability criteria in building partnerships?
- Add notes here

9. Cost Structure

- What are the fixed and variable costs of launching your product? Consider the cost at each stage - from setting up and hiring all the way to marketing and distribution. How could a circular approach benefit the cost efficiency?
- Add notes here

BUSINESS MODEL CANVAS

After completion of the GSC you may apply the most widely used tool for business modelling called Business Model Canvas (BMC) created by Osterwalder and Pigneur (2010). The information produced in GSC now can be transferred to respective nine blocks of BMC. The advantage of transferring GSC information to traditional BMC is that it provides a clear and comprehensive business model overview in a single visual format.

THE BUSINESS MODEL CANVAS

KEY PARTNERS

Who are our key partners?

KEY ACTIVITIES

What key activities do our value propositions require?

KEY RESOURCES

What Key resources do our value propositions require?

VALUE PROPOSITIONS

What value do we deliver to the customer?

CUSTOMER RELATIONSHIPS

what type of relathionship does each of our customer segments expect us to establish and maintain with them?

CHANNELS

through which channels do our customer segments want to be reached?

CUSTOMER SEGMENTS

For whom are we creating value?

COST STRUCTURE

What are the most important costs inherent in our business model?

REVENUE STREAMS

For what value are our customers really willing to pay?

WORKBOOK

USE THE WORKBOOK TO REVIEW THE 5RS IN YOUR PRODUCT DEVELOPMENT PROCESS

	CHECKLIST WITH QUESTIONS	COMMENTS
RE-THINK	Are we considering a circular approach from the beginning of the development process, moving away from the linear ”take-make-dispose” approach? Have we explored alternative business models, sustainable activities and circularity culture in the company?	
REDUCE	Have we identified opportunities to reduce the environmental footprint of the product? Have we optimized the design for resource efficiency and lightweight construction? Are we going to use recycled or reclaimed materials wherever feasible?	
REUSE	Have we designed the product with reuse in mind, products that are modular, easily repaired, disassembled and upgraded? Have we established mechanisms for customers to return and exchange products for refurbishment or upgrades? Have we implemented take-back programs for end-of-life products?	
RECYCLE	Are the materials used in the product recyclable, and have we designed for ease of recycling? Have we explored closed-loop systems for recycling materials from old products into new ones? Have we identified and collaborated with recycling facilities and partners?	
RECOVER	Have we considered end-of-life options, such as energy recovery or other sustainable disposal methods? Are we exploring ways to recover valuable components or materials from products that can't be reused or recycled? Are we actively working to minimize landfill waste and promote responsible disposal practices?	

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CHAPTER 7

NEXT STEPS

TIPS ON THE NEXT STEPS TO PLAN AND LAUNCH YOUR BUSINESS

SUSTAINABLE.TURIBA.LV

CONSIDER YOUR NEXT STEPS

Business planning and launching

Congratulations! You have developed an excellent sustainable business idea. It is not an easy task, but a very important first step towards a successful business. In this part we would like to remind you that business development does not stop just with an idea. Thus your next steps are to develop a business plan and launch the business. There are many good resources to guide you in the development of a business - hereby are some tips for the following steps. Always keep sustainability in mind!

- [ ] Carry out market research and validation
- [ ] Create a business plan
- [ ] Conduct review of legal issues and registration
- [ ] Think about funding and financing
- [ ] Start product development
- [ ] Create a brand and identity
- [ ] Build supplier partnerships
- [ ] Implement sales and marketing
- [ ] Launch your business and monitor its progress
- [ ] Remember sustainability reporting and impact

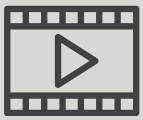
STEP	DESCRIPTION
1	**Carry out Market Research and Validation** Conduct thorough market research to validate the demand for your sustainable product or service. Gather feedback from potential customers, assess competitors, and ensure there's a viable market.
2	**Create a Business Plan** Create a comprehensive business plan that outlines your business model, target audience, value proposition, revenue streams, marketing strategy, and financial projections.
3	**Conduct Review of Legal issues and Registration** Choose a suitable legal structure (e.g., sole proprietorship, LLC, corporation) for your business and complete all necessary registrations, licenses, and permits required in your jurisdiction.
4	**Consider Funding and Financing** Determine how much capital you will need to launch your business. Explore funding options such as personal savings, loans, grants, angel investors, venture capital, or crowdfunding.
5	**Start Product Development** Develop your sustainable product or service, ensuring it meets high-quality standards and aligns with your environmental and social goals.
6	**Create a Brand and Identity** Create a strong brand identity, including a memorable name, logo, and visual elements that reflect your sustainable values and resonate with your target audience.
7	**Build Supplier Partnerships** Identify and establish relationships with suppliers who share your commitment to sustainability. Ensure your supply chain aligns with your eco-friendly objectives.
8	**Implement Sales and Marketing** Develop a comprehensive marketing strategy that includes both online and offline tactics to promote your sustainable business. Utilize content marketing, social media campaigns, influencer collaborations, and more.
9	**Launch your business and Monitor its progress** Execute a successful launch event or campaign to introduce your sustainable business to the market. Continuously monitor your business performance, gather customer feedback, and adapt your strategies as needed.
10	**Remember Sustainability Reporting and Impact** Once launched, regularly measure and report your business' environmental and social impact. Transparency about your sustainability efforts can enhance your brand's credibility and attract conscious consumers.

USEFUL RESOURCES

SUSTAINABLE BUSINESS EXAMPLES

MARIKA ĢEDERTE, OWNER OF INTERNATIONAL COLLEGE OF COSMETOLOGY (LATVIA) TALKS ABOUT THE SUSTAINABILITY STRATEGY IN THEIR ORGANISATION.

MAXIMA CASE. LEARN ABOUT SUSTAINABILITY ACTIVITIES OF MAXIMA – LEADING RETAIL COMPANY IN LATVIA. LISTEN TO THE STORY OF HOW MAXIMA IMPLEMENTED A SUSTAINABLE BUSINESS APPROACH.



SUSTAINABILITY IN THE ARCTIC REGION – A DIFFERENT PERSPECTIVE ON HOW TO THINK ABOUT SUSTAINABLE BUSINESS.

READING MATERIAL

SUPPORTIVE RESEARCH ON SUSTAINABLE ENTREPRENEURSHIP AND BUSINESS PRACTICES

UTILIZING SUSTAINABLE DEVELOPMENT CONCEPTS AND STANDARDS FOR BUILDING A CAREER

STRENGTHENING SUSTAINABILITY IN ENTREPRENEURSHIP EDUCATION - IMPLICATIONS FOR SHIFTING ENTREPRENEURIAL THINKING TOWARDS SUSTAINABILITY AT UNIVERSITIES

FINAL CONSIDERATIONS

This Handbook on Sustainable Entrepreneurship for Climate Action was created by a consortium of three European universities as a part of an Erasmus+ project (Strategic Partnerships), SECA. The Handbook serves as a valuable resource for individuals and businesses looking to make a positive impact on the environment while also thriving in the business world. By incorporating sustainable practices into their operations, entrepreneurs can contribute to the fight against climate change and create a more sustainable future - and benefit as they enhance their brand reputation, attract environmentally conscious consumers, and drive innovation.

At the end of the Handbook the reader will be familiar with the Sustainable Development Goal 13 “Climate Action“ and the importance of sustainable entrepreneurship. Start-ups that address climate change challenges can be developed with the assistance of the Handbook’s step-by-step roadmap with practical tools and learning resources, such as business idea creation with the problem-solution tree method, the creation of sustainable value with design thinking and the circular business model. The Handbook guides its reader through each stage of the innovation journey, providing clear instructions, learning goals and workbook tasks for a systematic progress.

This Handbook serves as a starting point, offering guidance and inspiration to empower entrepreneurs to take action and make a meaningful difference in the face of climate change. It is our hope that by adopting the principles outlined in this handbook, entrepreneurs can create a more sustainable future, not only for their businesses but for the planet as a whole. Together, we can build a thriving economy that is in harmony with the environment.

Every drop counts. We hope you enjoy the climate action journey with us!

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SUSTAINABLE ENTREPRENEURSHIP FOR CLIMATE ACTION

DIGITAL HANDBOOK ON HOW TO INNOVATE SUSTAINABLE START-UPS AND BUSINESSES FOR CLIMATE ACTION

The Handbook serves as a valuable resource for individuals and businesses looking to make a positive impact on the environment while also thriving in the business world. The handbook provides a step-by-step guidance and tools for educators, students, start-up entrepreneurs and businesses in the process of creating sustainable businesses aligned with climate action.

The handbook has been produced as a part of project "Sustainable Entrepreneurship for Climate Action" co-funded by European Commission.

Learn more about the project: https://sustainable.turiba.lv/

THANK YOU FOR TAKING CLIMATE ACTION WITH US!

SECA Sustainable Entrepreneurship for Climate Action

LAPIN AMK Lapland University of Applied Sciences

Turība University

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