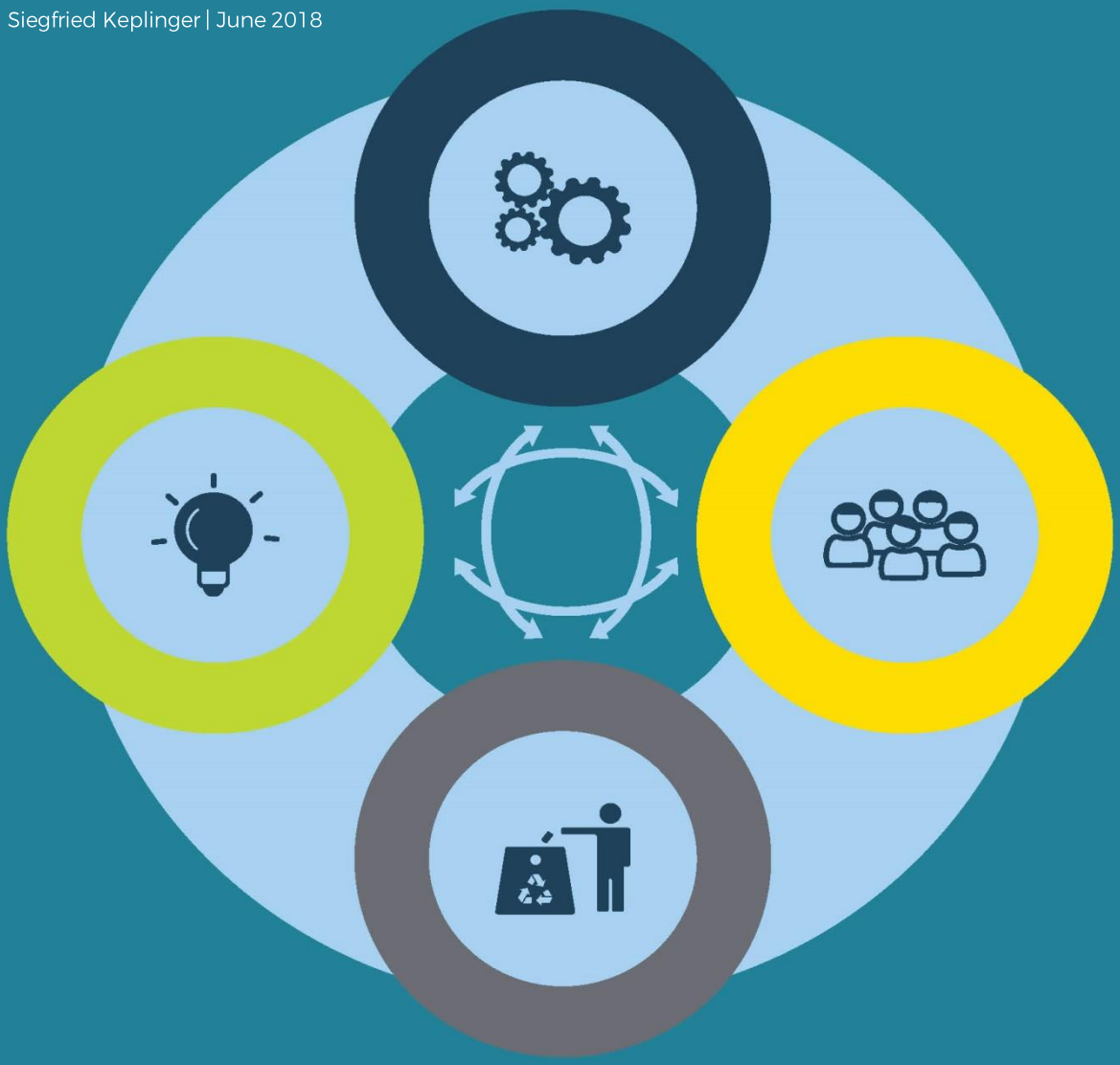
MOVECO

CIRCULAR ECONOMY INNOVATION TOOLS
Fundamental Business Skills for Green Entrepreneurs

Qualification Programme Handbook

Prepared by DI Siegfried Keplinger | June 2018



Interreg
Danube Transnational Programme
MOVECO

A stream of cooperation

Project co-funded by European Union funds (ERDF, IPA)
www.interreg-danube.eu/moveco

Deliverable 5.2.2
Final version
June 2018

1. TABLE OF CONTENTS

2. INTRODUCTION

2.1. INTRODUCTION TO THE FUNDAMENTAL BUSINESS SKILLS FOR GREEN ENTREPRENEURS SECTION OF THE MOVECO TOOLBOX

This handbook is part of the circular economy toolbox of the MOVECO project. Its main goal is to have a look at how our daily work will chance and what skills people need in the next decades to be successful.

This document can either be used as background material for trainers and participants in a **workshop** or also by individual readers (**self-study** or within a self-formed study-group). For both cases, there are notes provided that guide through the material.

Indicative questions encourage you to reflect what you have just read.

In addition, throughout the text, you will find some indicative questions framed and marked by "?" that encourage to reflect what you have just read.

Cross-references to the case studies and further MOVECO materials help to deepen your knowledge about circular economy.

Moreover, there are cross- references to the case studies or other MOVECO material (such as the fact sheets) marked by "".

Practical exercises are pointed out for trainer-led workshops or self-study by individual readers or a self-formed study group

Further, the pencil sign points out practical exercises that can be done as part of a trainer-led workshop or in self-study by individual readers or a self-formed study group.

For the **practical** work, there are several **case studies** that invite discussion or reflection – paired with empty templates for worksheets that encourage looking at a self-chosen practical product example. In the end, there is a short quiz to test the knowledge gained in this section of the toolbox. You will find any specific terminology explained in the **glossary**. If you use this section as part of a workshop, there is an **evaluation form** at the very end that can be used to collect feedback at the end of the workshop.

3. FUNDAMENTAL BUSINESS SKILLS FOR GREEN ENTREPRENEURS

3.1. GENERAL INFORMATION

We predict the circular revolution to be unstoppable. We discuss about new business models like product life extension and resource recovery, we face new economic systems like product as a service and sharing platforms. But what we may not lose out of sight is, that all these changes in the world surrounding us will also bring a massive change in skills and labour needed for the circular economy.

Please also have a look at the MOVECO Qualification programme Handbook Section "Different Business Models based on Circular Economy"

In the front line of all new business stand entrepreneurs. People who are willing to start their own business, in our case circular business. They have big ideas, take risk, and change the way how to do business. In her article "List of Skills Entrepreneurs Need"[1] Alison Doyle states 4 top skills every entrepreneur needs and this is sure true also for green entrepreneurs:

- Creative Thinking, that is thinking outside of the box.
- Leadership, what means having great ideas and to be skilled is not all, you also need staff on board sharing your targets.
- Risk Taking, which can lead to failures, but also successes.
- Strong Work Ethic, being an entrepreneur is not only exciting, it's definitely a lot of hard work.

But maybe we should not start with the special skills green entrepreneurs need, maybe we should before have a look at how our daily work will change and what skills people need in the next decades to be successful.

3.2. SKILLS NEEDED FOR THE FUTURE

Our main topic is circular economy but besides this also the fourth industrial revolution is changing our lives. Advanced robotics with artificial intelligence are standing ante portas, manless production halls and autonomous transport are no science fiction any more. This will not only transform the way we live but also the way we work.

Jobs will disappear and others, we even don't think about, will come. New skills will be needed to perform them. In his article "The 10 skills you need to thrive in the Fourth Industrial Revolution"[2] Alex Gray writes about a report of the World Economic Forum" where chief human resources and strategy officers from leading global employers were asked what the current shifts mean, specifically for employment, skills and recruitment across industries and geographies.

They stated

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordination with others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

So what is the definition of a green entrepreneur? What are the special skills he needs? I think we should not think too complicated, there are no special green skills, and it's just about being able to face the future! Only circular economy will carry us through the next century and only people facing the new challenges will be successful – and their solutions will be green (and circular) solutions.

With this and the skills from the introduction in mind we can start our course and look at some of these skills and their relevance for green entrepreneurs!

3.2.1. CREATIVITY

Creativity will maybe get the top skill workers will need. With the development of new materials with new characteristic at a rapid growing pace, with new technologies and new ways of production, the design, production engineering, transport and sales have to become more creative in order to benefit from all changes.

Don't you think creativity has been already important for all times? What does your daily work look like? Is creativity a part of it? What do you expect for the next 3 / 5 / 10 years?

Robots may help us in our households doing daily work, in our job supporting us at reiterating routine handles, they can even cook and nurse children as well as elder people, but can they be as creative as humans. Can they handle new situations, missing fractions of a recipe, do they have ideas for reusing a product with a new signification? And can they be entrepreneurs?

Entrepreneurs have to think outside of the box. Creative thinking can bring a small, working business to another level of success. Alison Doyle1 also states that "most people associate creativity with the arts such as writing a novel, painting a picture, or composing music. While these are all

creative endeavours, not all creative thinkers are artists. Many jobs require creative thinking, including positions in the world of business and science".

3.2.2. JUDGMENT AND DECISION MAKING

New technologies will influence our way of living, working and moving in small villages as well as in the circular cities of the future. It is our duty, that villages and cities stay places for people and not only for machines and robots. This requires the forward-looking and systematic integration of environmental aspects into our political and business decisions.

Is Stewardship for next generation's part of your Decision Making? Which judgment will they render about us?

So what is it under the respect of judgment and decision making a green entrepreneur has to think about? He will foster his new ideas, create a new service or find a new way to organise his sales – nevertheless he also will have to face reduction of environmental impact of his work to individuals and society. He will have to identify and implement all savings potentials he can find, from consumption of valuable resources up to reduction of production costs. His greener products will not only introduce ecological effective production processes and greener products but also increase competitiveness and avoid expensive follow-up measures. Besides motivation of his employees preventing negative environmental impacts and reducing risk of injury will be his primary tasks.

Green entrepreneurs have to commit themselves to sustainable management

Face the challenge to unite economic success, ecological compatibility and social responsibility.

Please also have a look at the MOVECO "School of Thinking: Cradle to Cradle" in the training handbook

3.2.3. REVIVAL FOR REUSE

Using selected collecting schemes, reusable waste products are collected in a controlled manner, processed in qualified facilities and the revitalized products are delivered to the sales outlets. In order to guarantee the new owners high standards, only those products are accepted that meet defined acceptance criteria and are complete, undamaged and respectable. Quality on the used market at reasonable prices.

Examples of work and further information can be found on the internet following this link

http://www.revitalistgenial.at/header/englisch.html

3.2.4. SERVICE ORIENTATION

TrubyAchievements defines service orientation on its internet platform as "Service orientation is the ability and desire to anticipate, recognize and meet others' needs, sometimes even before those needs are articulated. Service oriented people focus on providing satisfaction and making themselves available to others."[3]

Another definition we find at HelpScout: "It's not about the product. Organizations that excel in customer service see their job as helping customers, not selling or servicing a product. Instead, the product is the vehicle for making the biggest impact on people in a specific industry."[4]

Whatever definition you prefer, a green entrepreneur who wants to make his fortune on new services will have to stick to the old wisdoms. Service means working with people not with a product!

Please also have a look at the MOVECO Qualification programme Handbook Section "Different Business Models based on Circular Economy" to find more information about "From product to a Service" and "Sharing

And another citation from HelpScout[4]: "Knowing how to help customers depends on your ability to empathize with their challenges. If you can know how they feel, you can help them to feel better, which is the most important part of a customer service job."

There's nothing to add to it!

Which services do you use in everyday life? On the job / at home? Could you imagine to be an entrepreneur a find a service you could offer?

3.3. MARKETING HINTS FOR GREEN ENTREPRENEURS

Products and services based on the concept of Circular Economy compete with serious disadvantages on the market: premium prices, unfamiliar business models tend to keep away the majority of the consumers. Goods made of recycled or biologically degradable materials are not well accepted: higher prices may come together with special user requirements. While present marketing trends push customers to continuously look for newer products, change their belongings frequently, the circular economy concept emphasises to make longer investments, repair and upgrade products already owned by the consumer.

Producers willing to follow the philosophy of circular economy face several barriers: usage of recycled materials requires a special attention on quality issues, while using biologically degradable materials may alter the habitual use of products. Production needs to be adjusted by using specialised techniques, methods, design and machinery. Anyway, the usage of these materials will result in higher expenses. Besides increased production costs they need to differentiate their goods which would require additional spending on marketing. Focus need to be shifted towards providing services rather than selling products.

At the same time, Circular Economy is not an option. The produce – use – deposit linear economy is not sustainable on the longer run. There is also a growing awareness of consumers towards eco-friendly products and services. There are already successful companies with state of the art products and services on the market. Will your company benefit from the new era? What are the fundamental marketing skills for a green entrepreneur? How to become the "Apple" of the "Green Economy"?

In the next chapters we would like to outline a few marketing techniques that could potentially help to build a marketing strategy.

3.3.1. THE 5 CUSTOMER SEGMENTS OF TECHNOLOGY ADOPTION

Circular Economy related products and services bear unconventional features that are keeping away the majority of potential customers. But not the innovators and early adaptors! Learn more about how innovative products are adopted by customers by reading the adaptation lifecycle of innovative products section (Everett M. Rogers: Diffusion of Innovations): "The 5 Customer Segments of Technology Adoption"[5] According to Rogers' research, we see that not everyone will immediately adopt a disruptive idea despite obvious benefits. Over years of research, Rogers identified some fascinating personality traits that help us organize how people will accept a new innovation. It turns out we approach innovations in the following ways.

- Innovators (2.5%) – Innovators are the first individuals to adopt an innovation. Innovators are willing to take risks, youngest in age, have the highest social class, have great financial lucidity, very social and have closest contact to scientific sources and interaction with other innovators. Risk tolerance has them adopting technologies which may ultimately fail. Financial resources help absorb these failures. (Rogers 1962 5th ed, p. 282)
- Early Adopters (13.5%) – This is the second fastest category of individuals who adopt an innovation. These individuals have the highest degree of opinion leadership among the other adopter categories. Early adopters are typically younger in age, have a higher social status, have more financial lucidity, advanced education, and are more socially forward than late adopters. More discrete in adoption choices than innovators. Realize judicious choice of adoption will help them maintain central communication position (Rogers 1962 5th ed, p. 283).
- Early Majority (34%) – Individuals in this category adopt an innovation after a varying degree of time. This time of adoption is significantly longer than the innovators and early adopters. Early Majority tend to be slower in the adoption process, have above average social status, contact with early adopters, and seldom hold positions of opinion leadership in a system (Rogers 1962 5th ed, p. 283)
- Late Majority (34%) – Individuals in this category will adopt an innovation after the average member of the society. These individuals approach an innovation with a high degree of skepticism and after the majority of society has adopted the innovation. Late Majority are typically skeptical about an innovation, have below average social status, very little financial lucidity, in contact with others in late majority and early majority, very little opinion leadership.
- Laggards (16%) – Individuals in this category are the last to adopt an innovation. Unlike some of the previous categories, individuals in this category show little to no opinion leadership. These individuals typically have an aversion to change-agents and tend to be advanced in age. Laggards typically tend to be focused on "traditions", likely to have lowest social status, lowest financial fluidity, be oldest of all other adopters, in contact with only family and close friends, very little to no opinion leadership.

?

Which Ones Are Your Customers?

It is important to note that individuals do not always line up as "Innovators" in all areas of their decision making processes. For example, a person may adopt cutting-edge green technologies for their home with solar heating and yet not belong to an online social network or own a smartphone.

3.3.2. ARE YOU MANIPULATING OR INSPIRING?

There are two ways of influencing consumer behaviour: you can manipulate it or you can inspire it. Typical manipulations include dropping the price, running a promotion, using fear, peer pressure etc.

When companies do not have a clear sense of why their customers are their customers, they tend to rely on a disproponiate number of manipulations to get what they need.

- Price: For the seller, selling based on price is like heroin. The short-term gain is fantastic, but the more you do it, the harder it becomes to kick the habit. Once buyers get used to paying a lower-than-average price for a product or service, it is very hard to get them to pay more.
- Fear: Fear, real or perceived, is arguably the most powerful manipulation.
- Peer pressure: When marketers report that a majority of a population or a group of experts prefers their product over another, they are attempting to sway the buyer to believing that whatever they are selling is better. Peer pressure works not because the majority or the experts are always right, but because we fear that we may be wrong.
- Novelty: Real innovation changes the course of industries or even societies, like the light bulb, the microwave and iTunes. Adding a camera to a mobile phone is not an innovation – a great feature, but not industry altering. Novelty can drive sales but the impact does not last. If a company adds too many novel ideas too often, it can have a similar impact on the product or category as the price game. In an attempt to differentiate with more features, the product start to look and feel more like commodities and, like price, the need to add yet another product to the line of compensate for the communisation ends in a downward spiral."[6]

What other manipulative techniques are you using? And what techniques can you recognise around you?

"Manipulations lead to transactions, not loyalty

For transactions that occur an average of once, carrots and sticks are the best way to elicit the desired behaviour. Manipulations are perfectly valid strategy for driving a transaction. But it is the feeling of "we´re in this together" shared between customer and company that defines great leaders."[6]

3.3.3. THE GOLDEN CIRCLE (START WITH WHY!)

The followings are the summary based on the Ted talk of Simon Sinek. More can be read in detail in his book: "Start With Why"

Instead of manipulating, you can choose to inspire your clients, customers and your colleagues too. With this decision, you may enter a club of a few: inspiring, motivating leaders who share many common things in their actions and communications. Their behaviour is almost the opposite of those, who stay with manipulative techniques. Simon Sinek describes this behaviour with the parallel of "The Golden Circle".

"His Golden Circle offers an interesting insight in to why some leaders and organisations have achieved such an exceptional degree of influence, and he uses Apple as an example of an organisation that's able to innovate in so many diverse industries. The Golden Circle shows how some leaders are able to inspire action instead of manipulating people to act. Here is his explanation and how it starts from the inside out. It all starts with WHY.

- WHAT: Every single company and organisation on the planet knows WHAT they do. This is true no matter how big or small, no matter what industry. Everyone is easily able to describe the products or services a company sells or the job function they have within the system. WHATs are easy to identify.
- HOW: Some companies and people know HOW they do WHAT they do. Whether you call them a "differentiating value proposition" or "unique selling proposition," HOWs are often given to explain how something is different or better. Not as obvious as WHATs , and many think these are the differentiating or motivating factors in a decision. It would be false to assume that's all that is required. There is one missing detail.
- WHY: Very few people or companies can clearly articulate WHY they do WHAT they do. This isn't about making money – that's a result. WHY is all about your purpose, cause or belief. WHY does your company exist? WHY do you get out of bed in the morning? And WHY should anyone care?

When most organisations or people think, act or communicate they do so from the outside in, from WHAT to WHY. And for good reason – they go from the tangible to the intangible. We say WHAT we do, we sometimes say HOW we do it, but rarely say WHY we do WHAT we do.

But not the inspired leaders and companies. Every single one of them, regardless of their size or industry, thinks, acts and communicates from the inside out.

When we're selling from the inside out, the WHY is the reason we might buy and the WHATs serve as the tangible proof of that belief.

When an organisation articulates their WHY and we believe it, then we go above and beyond to include their offerings in our lives. We embrace their beliefs, not because they're necessarily better, but because they represent values that are important to us. They make us feel like we belong and these organisations are the ones that create loyal fan bases, and brand ambassadors."[7]

3.4. CONCLUSION / TAKE-HOME-MESSAGES

In the course we took only a few examples of skills to reflect on them and to look at related case studies; so you are invited to think about the others on your own – see also the headings for the worksheet template!

Besides skills every "green" entrepreneur needs I would like to stress here that circular economy and the fourth industrial revolution will not be resolved by lonely warriors, its team work what we need in the future! We have to build teams to encourage expertise and knowledge and we have to include our stakeholders.

So I would like to release you to the workshop part with a citation from the Module "Team Building" in the Circular Design Guide:

"As with all design processes, interdisciplinary teams are important when designing for the circular economy. Through diversity of knowledge and thinking, interdisciplinary teams can be transformative. In order to think holistically, you will benefit from having a variety of perspectives and skillsets. The strength of such teams is often gained through creative friction – a key element to creating new ways of doing things."[1]

4. NOTES

4.1. FOR TRAINERS: HOW TO WORK WITH THIS SECTION IN THE WORKSHOP

The material of the Fundamental Business Skills for Green Entrepreneurs section of the MOVECO toolbox is designed in a modular way, so that you can tailor the workshop to the SMEs in the audience and the time available. Here is how:

1) Go through the PowerPoint presentation and choose the examples you would like to include and remove the others from the presentation. Make sure you also read the "notes for trainers" notes that are included in the notes of the presentation (below the slides in the notes view) to prepare your session.
2) Select the matching case studies from the handbook to work with in the workshop.
3) Prepare your introductory lecture; you can use the information from the notes in the presentation as well as from the handbook. In addition, there are links and reading recommendations that can help you. You may choose to direct your participants/readers to those for further reading at the end of the workshop as well.
4) Prepare the basic outline for the discussion of the case studies (starting questions, time frame, etc.) and start the discussion with the participants. Then make sure to step back a little and encourage the discussion among the participants. You may choose to take notes yourself for a concluding summary or assign the task to the group members.
5) Direct the participants to their own analysis with the empty worksheet templates, encouraging them to get creative and think outside the box. Make sure you stress that there are no "wrong" answers, but that this is an exercise for coming up with new ideas and possibilities – which naturally do not all lead to success eventually. Be ready to assist and answer questions. Depending on the background of the participant, this can be done in individual work time or as group work – decide.
6) Give the participants enough time to sum up their own analysis and then encourage them to present it to the group. Make sure the group respects the individual ideas by stressing again that this is about creative ideas and not "right" or "wrong", invite them to add comments or suggestions to the individual contributions.
7) Finish the session with the quiz, point to additional reading and take up comments and suggestions (also to improve further editions of the workshop)
8) Do not forget to ask the participants for an evaluation with the evaluation form.

4.2. FOR WORKSHOP PARTICIPANTS AND SELF-STUDY READERS: HOW TO WORK WITH THIS SECTION IN THE WORKSHOP OR ON THEIR OWNS

There are **two ways** that you can work with this section of the MOVECO toolbox. Here is how:

In a workshop

The material of the Fundamental Business Skills for Green Entrepreneurs section of the MOVECO toolbox is designed in a modular way, so that the trainer will put together a workshop that is tailored to the audience and guide you through it. This section of the toolbox is hands-on, which means that will be plenty of room for **discussions** and **bringing in your own ideas**. The focus is on the creative process to come up with new ideas and creative solutions – there are no "right" or "wrong" answers, so please **contribute lively** with your own ideas and suggestions. We encourage you to **take notes** in case you want to come back to the material later. The handbook in the end will serve as your repository, where you can look up information and find suggestions for **further reading**.

Self-study

If you do not have the possibility to attend a workshop, you can nevertheless use the materials provided for self-study and find out all about material pathways for yourself. It is suggested that you proceed in the following order and take notes as you go along.

1) Read the **introduction** in the handbook
2) Look at the **presentation** with all the examples
3) Go back to the handbook and read the background information provided for each **case study** (or a selection, as you with).
4) Take an empty **worksheet template** to look at your product or production process (or, if you do not have an own example, choose one that you are somewhat familiar with). Read through the section of the handbook that explains the individual phases in chapter 2 and follow the guiding questions set there in the exercises and on the worksheet templates. The aim here is to get creative and think outside the box – just go ahead!
5) Look at the **further readings** section and the links to dig deeper into the topic

It would be a good idea to find somebody to team up with and discuss your findings – either via skype or in person. You can also try to set up your own mini-workshop by using the notes for the trainers above to guide you.

5. CASE STUDIES

5.1. CASE STUDY FOR CREATIVITY

The society “Kunst vom Rand” translated to English ”Art from the edge” creates concepts for the valorisation of periodically accruing waste material through innovative redesign. These concepts should point out new possibilities in the utilization of the obsolete. They attach great importance to the simple processing of socially relevant old materials into unique new materials.

In remanufacturing concepts the existing material is analysed according to articles, quantities, sizes, availability etc. and a sensible remanufacturing concept is developed on the basis of this information. Machining possibilities, exemplary production steps, technical production problems are determined. The chairman Mr. Josef-Michael Pfeiffer defines his work like this: “Everyone is equally involved in the overall concept according to his or her feelings, experiences and talents. The creative inhalation and exhalation in different rhythms. It is not a matter of searching but of finding. The found inspires, ideas meet, complement each other and merge. This promotes the creativity of all those involved. It is also essential to uncover hidden talents and enjoy working together.”

Examples of work and further information can be found on the internet following this link

https://kunstvomrand.jimdo.com/

5.2. CASE STUDIES FOR JUDGMENT AND DECISION MAKING

Closed recycling circuit for batteries!

The Umweltforum Starterbatterien organizes the collection and disposal of vehicle batteries accumulating in Austria (lead-acid batteries) and thus makes a significant contribution to the high overall rate of return of vehicle batteries in Austria. Founding member Banner Batteries in this way recycles 100% of its batteries!

Please also have a look at the MOVECO brochure "Your Trash is my Treasure" and the best practise examples you can find there!

Examples of work and further information can be found on the internet following this link

https://www.bannerbatterien.com/en/Company/Sustainability-and-Environment

A very similar approach is done by SC Rombat SA. As a manufacturer of lead acid batteries for vehicles, SC Rombat SA has committed to a holistic battery recycling approach.

SC Rombat SA collects used batteries and processes them at the REBAT facility in Copsa Mica, which is certified according to ISO 14001 (Environmental Management System).

The first tests for the recycling of batteries already took place in 2005. Since then, the yield of lead extraction has steadily increased. The current capacity is up to 20,000 tons per year. Since the expansion of Rombat's production processes, the quality of recovered lead is comparable to that of the largest European producers.

The recycling process allows reuse of over 83% of the original battery weight. Both the plastic and the lead and the lead alloy are used for the production of new batteries.

With these processes, Rombat can save valuable natural resources in Romania. In addition, environmental pollution is avoided by discarded batteries. In addition to environmental benefits, Rombat can sell its batteries at a lower price through the recycling process.

Examples of work and further information can be found on the internet following this link

https://www.rombat.ro/en/company/mission-and-values/

5.3. CASE STUDIES FOR SERVICE ORIENTATION

Turn old into new!

A general overhaul from Rosenbauer quickly updates your fire-fighting vehicle with the latest technology. Municipal and initial attack vehicles as well as industrial and air crash tenders can be fitted with the latest fire-fighting equipment. Even individualized suggestions for modernization are possible. All installed modules come from the latest product lines and reflect the best quality.

Examples of work and further information can be found on the internet following this link

https://www.rosenbauer.com/en/de/rosenbauer-world/service/in-use-around-the-world/repairs-and-general-overhauls

Deposit Cup for Coffee-to-go

In Germany alone, approximately 2.8 billion disposable cups are used for coffee-to-go every year and thrown away after a single use - 320,000 cups per hour. Apart from the fact that a stack of cups could be built up to the moon, this also means unnecessary consumption of resources and an unnecessary burden on us and our environment.

RECUP does without all this and has a solution at hand: coffee in a stylish returnable cup - and this in a practical deposit system.

Examples of work and further information can be found on the internet following this link

https://recup.de/

6. TEMPLATES OF WORKSHEETS

In the following, there is an empty worksheet template to work with in a workshop or individually. Select a heading and design your individual training / working profile.

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordination with others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility
11. Leadership
12. Risk taking
13. Strong Work Ethic

Current situation

Training and education forms	Kind of job you need it for	Scenario if not available	Importance for green entrepreneur

Potential future situation

Training and education forms	Kind of job you need it for	Scenario if not available	Importance for green entrepreneur

Another template for an exercise about "Marketing Hints for Green Entrepreneurs" would be the following:

Firstly, listen to the TED talk of Simon Sinek: „How great leaders inspire action" (https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action)

Now, take some time (could be a few hours) and think about and answer the following questions:

1. What is your WHY? What do you want to change?

2. What are you living for?

3. Why are you in business?

4. How do you accomplish your mission?

5. What do you need to do?

6. Where will your customers/clients/partners come from?

7. QUESTIONS & ANSWERS

7.1. QUIZ – QUESTIONS

This quiz can be used at the end of the workshop to check whether the key content has been understood and to sum up the most relevant take-home-messages.

What are skills entrepreneurs need?

☐ Creative Thinking

☐ Strong Work Ethic

☐ Pragmatism

☐ Leadership

☐ Lone Warrior

☐ Risk Taking

Who will take offer creative decisions in the next 5 years?

☐ Robots with artificial intelligence.

☐ Maybe later, it will stay with humans the next 5 years.

Can you remember the case studies for Judgment and Decision Making?

☐ Rosenbauer

☐ Banner

☐ Coffe to Go

☐ Revital

How would you define service orientation?

☐ Making a product easier to handle.

☐ Help the customer to feel better.

☐ Offer price reduction.

Why is team building important?

☐ Fight unemployment.

☐ Nobody knows everything.

☐ Encourage expertise and knowledge.

☐ Offer all your friends a job.

Are skills for green entrepreneurs something complete new?

☐ Yes, the future will change everything.

☐ No, it's a natural evolution to new skills.

☐ There or no new skills necessary at all.

7.2. QUIZ – SOLUTIONS

What are skills entrepreneurs need?

☑ Creative Thinking

☑ Strong Work Ethic

☐ Pragmatism

☑ Leadership

☐ Lone Warrior

☑ Risk Taking

Who will take offer creative decisions in the next 5 years?

☐ Robots with artificial intelligence.

☑ Maybe later, it will stay with humans the next 5 years.

Can you remember the case studies for Judgment and Decision Making?

☐ Rosenbauer

☑ Banner

☐ Coffe to Go

☑ Revital

How would you define service orientation?

☐ Making a product easier to handle.

☑ Help the customer to feel better.

☐ Offer price reduction.

Why is team building important?

☐ Fight unemployment.

☑ Nobody knows everything.

☑ Encourage expertise and knowledge.

☐ Offer all your friends a job.

Are skills for green entrepreneurs something complete new?

☐ Yes, the future will change everything.

☑ No, it's a natural evolution to new skills.

☐ There or no new skills necessary at all.

8. GLOSSARY

Glossary

- **Bio-based material:** ""Bio-"is Greek for life. Bio-based material refers to a products main constituent consisting of a substance, or substances, originally derived from living organisms. These substances may be natural or synthesized organic compounds that exist in nature. This definition could include natural materials such as leather and wood, but typically refers to modern materials. Many of the modern innovations use bio-based materials to create products that biodegrade. Some examples are: cornstarch, derived from a grain and now being used in the creation of packaging pellets; bio-plastics created with soybean oil, now being used in the creation of many modern products like tractors, water bottles, and take away cutlery." [1] **Biodegradable material**: "A material which microorganisms can break down into natural elements (i.e. water, biomass, etc.)."[2]
- **Biological metabolism** - The natural processes of ecosystems are a biological metabolism, making safe and healthy use of materials in cycles of abundance[3]
- **Biological Nutrient** - A material used by living organisms or cells to carry on life processes such as growth, cell division, synthesis of carbohydrates and other complex functions. Biological Nutrients are materials that can biodegrade safely and return to the soil to feed environmental processes[4]
- **Cascading**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Compostable material**: "Materials that can be disposed with biological materials and decay into nutrient-rich material."[5] **Circular economy** - regenerative economy in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing energy and material loops
- **Cradle-to-Cradle®:** see MOVECO fact sheet "Supporting Tools for a Circular Economy"
- **Cradle to Grave** – "A Cradle to Grave system is a linear model for materials that begins with resource extraction, moves to product manufacturing, and, ends with a "grave" – when the product is disposed of in a landfill or incinerator"[6]
- **Decision** – "shall be binding in its entirety. A decision which specifies those to whom it is addressed shall be binding only on them"[7]

---

[1] https://sustainabilitydictionary.com/2006/02/17/bio-based-material/ (26.03.2018) // "A material that is partially, or entirely made of biomass." https://www.ceguide.org/Glossary (26.03.2018)
[2] https://www.ceguide.org/Glossary (26.03.2018)
[3] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[4] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[5] https://www.ceguide.org/Glossary (26.03.2018)
[6] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[7] European Network of Environmental law Organizations 2012 Implementation of the Waste Framework Directive in the EU Member States

- **Directive** – "shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods"[8]
- **Down-cycle** - to recycle (something) in such a way that the resulting product is of a lower value than the original item : to create an object of lesser value from (a discarded object of higher value)[9] see: MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Eco-Effectiveness** – "The central strategy in the cradle-to-cradle development method and seeks to create industrial systems that emulate healthy natural systems. The central principle of eco-effectiveness is that "waste equals food." The concept was developed in response to some of the perceived limitations of eco-efficiency which critics claim only slow down the rate of environmental depletion and don't reverse the production of unused or non-recycled waste".[10]
- **Eco efficiency** – "Management philosophy that aims at minimizing ecological damage while maximizing efficiency of the firm's production processes, such as through the lesser use of energy, material, and water, more recycling, and elimination of hazardous emissions or by-products."[11]
- **Ecological sustainability** – "a bio-centric school of sustainability thinking that, based on ecology and living systems principles, focuses on the capacity of ecosystems to maintain their essential functions and processes, and retain their biodiversity in full measure over the long-term contrasts with technological sustainability based on technical and engineering approaches to sustainability"[12]
- **Ecosystem** - the interactive system of living things and their non-living habitat[13]
- **Ecosystem redesign** - a coherent framework for redesigning our landscapes, buildings, cities, and systems of energy, water, food, manufacturing and waste through the effective adaptation to and integration with nature's processes[14]
- **Energy efficiency**: "Energy efficiency improvements refer to a reduction in the energy used for a given service (heating, lighting, etc.) or level of activity. The reduction in the energy consumption is usually associated with technological changes, but not always since it can

---

[8] European Network of Environmental law Organisations 2012 Implementation of the Waste Framework Directive in the EU Member States

[9] Merriam Webster dictionary

[10] https://sustainabilitydictionary.com/2005/12/03/eco-effectiveness/visited 26/02/2018

[11] http://www.businessdictionary.com/definition/eco-efficiency.html -visited 01.03.2018

[12] Orr D (1992) Ecological literacy: education and the transition to a post-modern world. State University of New York Press, Albany.

[13] Tansley AG (1935) The use and abuse of vegetational concepts and terms. Ecology 16:284–307 doi:10.2307/1930070

[14] with adaptations from https://www.researchgate.net/publication/301966198_Regenerative_Development_regenerative_development_and_Design (26.06.2018)

also result from better organization and management or behavioral changes ("non-technical factors")."[15]

- **Energetic use**: incineration of waste material that includes the use of the generated heat and energy for other processes
- **(Final) disposal**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Incineration**: Waste destruction in a furnace by controlled burning at high temperatures. Incineration removes water from hazardous sludge, reduces its mass and/or volume, and converts it to a non-burnable ash that can be safely disposed of on land, in some waters, or in underground pits. However, it is a highly contentious method because incomplete incineration can produce carbon monoxide gas, gaseous dioxins, and/or other harmful substances.[16]
- **Innovation** - production or adoption, assimilation, and exploitation of a value-added novelty in economic and social areas[17]
- **Landfilling**: "The disposal and burying of solid waste. The degradation of the waste results in the creation of local air and water pollution."[18]
- **Lean production** - approach to management that focuses on cutting out waste, whilst ensuring quality[19]
- **Life-cycle** - series of stages in form and functional activity through which a system passes between successive recurrences of a specified primary stage[20]
- **Life-cycle analysis**: see MOVECO fact sheet "Supporting Tools for a Circular Economy"
- **Life-time** - the duration of the existence of a given particular system[21]
- **Locational patterns** - the patterns that depict the distinctive character and potential of a place and provide a dynamic mapping for designing human structures and systems that align with the living systems of a place[22]
- **Negative externality** - occurs when production and/or consumption imposes external costs on third parties outside of the market for which no appropriate compensation is paid[23]
- **Optimization** - finding an alternative with the most cost effective or highest achievable performance under the given constraints, by maximizing desired factors and minimizing undesired ones[24]

---

[15] https://hub.globalccsinstitute.com/publications/energy-efficiency-recipe-success/definition-and-scope-energy-efficiency (26.03.2018)
[16] http://www.businessdictionary.com/definition/incineration.html (27.06.2018)
[17] with adaptations from http://www.ericshaver.com/the-many-definitions-of-innovation/ (27.06.2018)
[18] https://www.ceguide.org/Glossary (26.03.2018)
[19] with adaptations from https://www.tutor2u.net/business/reference/introduction-to-lean-production (27.06.2018)
[20] https://www.merriam-webster.com/dictionary/life%20cycle (26.06.2018)
[21] With adaptations from https://en.wikipedia.org/wiki/Lifetime (26.06.2018)
[22] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (25.06.2018)
[23] with adaptations from https://www.economicshelp.org/micro-economic-essays/marketfailure/negative-externality/ (26.06.2018)
[24] http://www.businessdictionary.com/definition/optimization.html (26.06.2018)

- **Permaculture** - a system of agricultural and social design principles centered around simulating or directly utilizing the patterns and features observed in natural ecosystems[25]
- **Place** - the unique, multi-layered network of ecosystems within a geographic region that results from the complex interactions through time of the natural ecology (climate, mineral and other deposits, soil, vegetation, water and wildlife, etc.) and culture (distinctive customs, expressions of values, economic activities, forms of association, ideas for education, traditions, etc.)[26]
- **Recommendations and opinions** - shall have no binding force [27]
- **Recycling:** see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Refurbishment:** "The refurbishment of something is the act or process of cleaning it, decorating it, and providing it with new equipment or facilities."[28]
- **Regenerative design** - a system of technologies and strategies, based on an understanding of the inner working of ecosystems that generates designs to regenerate rather than deplete underlying life support systems and resources within socio-ecological wholes[29]
- **Regenerative development** - a system of technologies and strategies for generating the patterned whole system understanding of a place, and developing the strategic systemic thinking capacities, and the stakeholder engagement/commitment required to ensure regenerative design processes to achieve maximum systemic leverage and support, that is self-organizing and self-evolving[30]
- **Regulation** - shall have general application. It shall be binding in its entirety and directly applicable in all Member States. – Source - Article 288 TFEU, [31]
- **Remanufacturing:** "The process of cleaning and repairing used products and parts to be used again for replacements."[32]
- **Restorative design** - sometimes called restorative environmental design; a design system that combines returning polluted, degraded or damaged sites back to a state of acceptable health through human intervention[33]
- **Resource efficiency**: "A percentage of the total resources consumed that make up the final product or service."[34] re-use: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Secondary resource/ secondary raw materials:** "Waste materials that are recovered, recycled and reprocessed for use as raw materials."[35]

---

[25] https://en.wikipedia.org/wiki/Permaculture (27.06.2018)
[26] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (25.06.2018)
[27] http://eur-lex.europa.eu/summary/chapter/environment.html?root_default=SUM_1_CODED%3D20,SUM_2_CODED%3D2003&locale=en
[28] https://www.collinsdictionary.com/de/worterbuch/englisch/refurbishment (26.03.2018)
[29] Mang, Pamela & Reed, Bill. (2017). Update Regenerative Development and Design 2nd edition.
[30] https://www.sciencedirect.com/science/article/pii/S2212609015300327 (26.06.2018)
[31] http://eur-lex.europa.eu/legal-content/en/TXT/HTML/?uri=CELEX:12016E288
[32] https://sustainabilitydictionary.com/2005/12/03/remanufacturing/ (26.03.2018)
[33] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (24.06.2018)
[34] https://sustainabilitydictionary.com/2005/12/03/remanufacturing/ (26.03.2018)
[35] https://sustainabilitydictionary.com/2005/12/03/remanufacturing/ (26.03.2018)

- **Servitization** - refers to industries using their products to sell "outcome as a service" rather than a one-off sale[36]
- **Source to sink** - simple linear flows from resource sources (farms, mines, forests, watershed, oilfields, etc.) to sinks (air, water, land) that deplete global sources and overload/pollute global sinks[37]
- **Stewardship** - ethic of companies, organizations and individuals that embodies the responsible planning and management of resources[38]
- **Sourcing:** "the act of getting something, especially products or materials, from a particular place"[39]
- **System thinking** - holistic approach of analysis and planning that focuses on the way the parts of a system interrelate each other and how systems work over time and within the context of larger systems[40]
- **Technical metabolism** - "Modelled on natural systems, the technical metabolism is MBDC's term for the processes of human industry that maintain and perpetually reuse valuable synthetic and mineral materials in closed loops"[41]
- **Technical nutrient** – "A material that remains in a closed-loop system of manufacture, reuse, and recovery called the technical metabolism, maintaining its value through infinite product life cycles "[42]
- **Upcycle** – "to recycle (something) in such a way that the resulting product is of a higher value than the original item: to create an object of greater value from (a discarded object of lesser value)"[43]
- **Upcycling**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Waste**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"

More: https://www.ceguide.org/Glossary

[36] https://www.k3syspro.com/servitization/ (24.06.2018)
[37] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (25.06.2018)
[38] https://en.wikipedia.org/wiki/Stewardship (24.06.2018)
[39] https://dictionary.cambridge.org/dictionary/english/sourcing (26.03.2018)
[40] https://searchcio.techtarget.com/definition/systems-thinking (27.06.2018)
[41] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[42] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[43] Merriam Webster dictionary

9. REFERENCES

Sources

1 https://www.thebalancecareers.com/list-of-skills-entrepreneurs-need-2062391

2 https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/

3 http://www.trubyachievements.com/service_orientation.html

4 https://www.helpscout.net/blog/customer-oriented/

5 Everett M. Rogers: Diffusion of innovations. Free Press u. a., New York NY u. a. 1962 https://ondigitalmarketing.com/learn/odm/foundations/5-customer-segments-technology-adoption/

6 Simon Sinek, Summary by Kim Hartman http://www.kimhartman.se/wp-content/uploads/2012/07/Start-with-why-by-Simon-Sinek.pdf;

7 Andy Partridgeon : Executive Summary: The Golden Circle with Simon Sinek; August 27, 2014; source: https://enviableworkplace.com/executive-summary-golden-circle-simon-sinek/

Picture Credits

Cover design by IDEEN DIE FRUCHTEN

Further reading / links

MOVECO documents

- MOVECO 2017. Brochure "Your trash is my treasure". http://www.interreg-danube.eu/approved-projects/moveco/section/best-practice
- MOVECO 2018. Checklist to support SMEs. http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/18/d80bd307d6bb83b4d1afe341dae0b177a96a2259.pdf
- MOVECO 2018. Fact Sheet - Supporting Tools for a Circular Economy. http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/14/572a016a8d386225c44c5870f4cb3188461d299b.pdf
- MOVECO 2018. Fact Sheet - Circular Economy: Terms and Definitions http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/14/b61410d76c124dcc94d55ff624be01f53972e29f.pdf
- MOVECO 2018. Fact Sheet - Information on Circular Economy. http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/14/b61410d76c124dcc94d55ff624be01f53972e29f.pdf

EU circular economy key documents

- Circular Economy - Implementation of the Circular Economy Action Plan http://ec.europa.eu/environment/circular-economy/index_en.htm
- Towards a circular economy https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en
- Circular economy https://ec.europa.eu/growth/industry/sustainability/circular-economy_en
- Circular economy - overview http://ec.europa.eu/eurostat/web/circular-economy

10. IMPRINT

This document is a publication within the MOVECO project.

Full title: MOVECO – Mobilising Institutional Learning for Better Exploitation of Research and Innovation for the Circular Economy

Project duration: 12/2016–05/2019

Project code: DTP 1-349-1.1

Funding scheme: As part of the Danube Transnational Programme, MOVECO is an Interreg project, co-funded by the European Regional Development Fund (ERDF) and the Instrument for Pre-Accession Assistance (IPA).

Lead partner of the project

Chamber of Commerce and Industry of Slovenia
Dimičeva 13
SI-1504 Ljubljana
Slovenia
www.gzs.si

Lead partner of this deliverable

Chamber of Commerce and Industry Bistrita-Nasaud
Str. Petre Ispirescu nr. 15A
RO - 4400 Bistrita
http://www.cciabn.ro

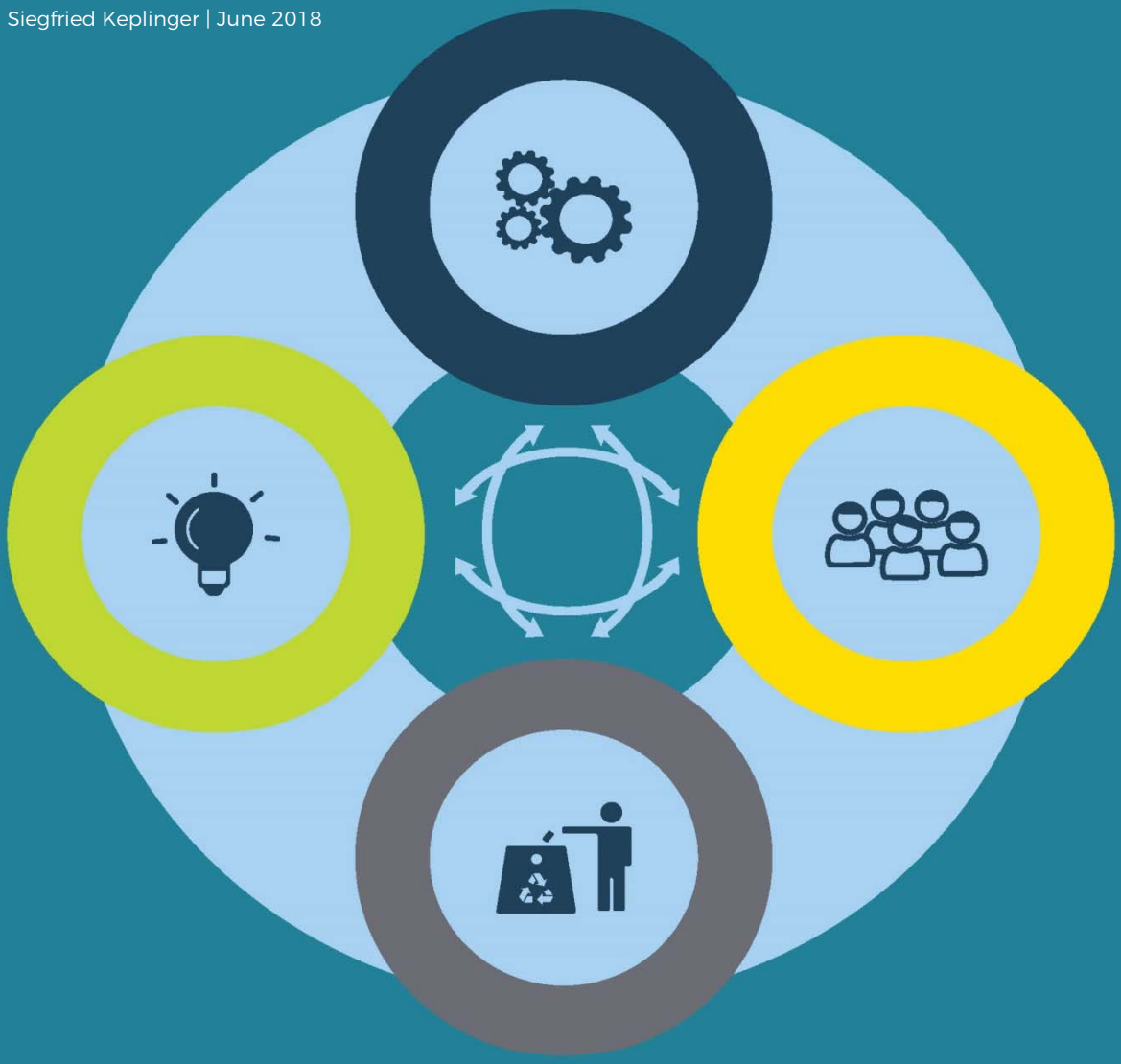
This document has been edited by DI Siegfried Keplinger on behalf of all project partners of the MOVECO project (project identity: DTP 1-349-1.1).

MOVECO

CIRCULAR ECONOMY INNOVATION TOOLS
Fundamental Business Skills for Green Entrepreneurs

Qualification Programme Handbook

Prepared by DI Siegfried Keplinger | June 2018



Interreg
Danube Transnational Programme
MOVECO

A stream of cooperation

Project co-funded by European Union funds (ERDF, IPA)
www.interreg-danube.eu/moveco

Deliverable 5.2.2
Final version
June 2018

1. TABLE OF CONTENTS

2. INTRODUCTION

2.1. INTRODUCTION TO THE FUNDAMENTAL BUSINESS SKILLS FOR GREEN ENTREPRENEURS SECTION OF THE MOVECO TOOLBOX

This handbook is part of the circular economy toolbox of the MOVECO project. Its main goal is to have a look at how our daily work will chance and what skills people need in the next decades to be successful.

This document can either be used as background material for trainers and participants in a **workshop** or also by individual readers (**self-study** or within a self-formed study-group). For both cases, there are notes provided that guide through the material.

Indicative questions encourage you to reflect what you have just read.

In addition, throughout the text, you will find some indicative questions framed and marked by "?" that encourage to reflect what you have just read.

Cross-references to the case studies and further MOVECO materials help to deepen your knowledge about circular economy.

Moreover, there are cross- references to the case studies or other MOVECO material (such as the fact sheets) marked by "".

Practical exercises are pointed out for trainer-led workshops or self-study by individual readers or a self-formed study group

Further, the pencil sign points out practical exercises that can be done as part of a trainer-led workshop or in self-study by individual readers or a self-formed study group.

For the **practical** work, there are several **case studies** that invite discussion or reflection – paired with empty templates for worksheets that encourage looking at a self-chosen practical product example. In the end, there is a short quiz to test the knowledge gained in this section of the toolbox. You will find any specific terminology explained in the **glossary**. If you use this section as part of a workshop, there is an **evaluation form** at the very end that can be used to collect feedback at the end of the workshop.

3. FUNDAMENTAL BUSINESS SKILLS FOR GREEN ENTREPRENEURS

3.1. GENERAL INFORMATION

We predict the circular revolution to be unstoppable. We discuss about new business models like product life extension and resource recovery, we face new economic systems like product as a service and sharing platforms. But what we may not lose out of sight is, that all these changes in the world surrounding us will also bring a massive change in skills and labour needed for the circular economy.

Please also have a look at the MOVECO Qualification programme Handbook Section "Different Business Models based on Circular Economy"

In the front line of all new business stand entrepreneurs. People who are willing to start their own business, in our case circular business. They have big ideas, take risk, and change the way how to do business. In her article "List of Skills Entrepreneurs Need"[1] Alison Doyle states 4 top skills every entrepreneur needs and this is sure true also for green entrepreneurs:

- Creative Thinking, that is thinking outside of the box.
- Leadership, what means having great ideas and to be skilled is not all, you also need staff on board sharing your targets.
- Risk Taking, which can lead to failures, but also successes.
- Strong Work Ethic, being an entrepreneur is not only exciting, it's definitely a lot of hard work.

But maybe we should not start with the special skills green entrepreneurs need, maybe we should before have a look at how our daily work will change and what skills people need in the next decades to be successful.

3.2. SKILLS NEEDED FOR THE FUTURE

Our main topic is circular economy but besides this also the fourth industrial revolution is changing our lives. Advanced robotics with artificial intelligence are standing ante portas, manless production halls and autonomous transport are no science fiction any more. This will not only transform the way we live but also the way we work.

Jobs will disappear and others, we even don't think about, will come. New skills will be needed to perform them. In his article "The 10 skills you need to thrive in the Fourth Industrial Revolution"[2] Alex Gray writes about a report of the World Economic Forum" where chief human resources and strategy officers from leading global employers were asked what the current shifts mean, specifically for employment, skills and recruitment across industries and geographies.

They stated

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordination with others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

So what is the definition of a green entrepreneur? What are the special skills he needs? I think we should not think too complicated, there are no special green skills, and it's just about being able to face the future! Only circular economy will carry us through the next century and only people facing the new challenges will be successful – and their solutions will be green (and circular) solutions.

With this and the skills from the introduction in mind we can start our course and look at some of these skills and their relevance for green entrepreneurs!

3.2.1. CREATIVITY

Creativity will maybe get the top skill workers will need. With the development of new materials with new characteristic at a rapid growing pace, with new technologies and new ways of production, the design, production engineering, transport and sales have to become more creative in order to benefit from all changes.

Don't you think creativity has been already important for all times? What does your daily work look like? Is creativity a part of it? What do you expect for the next 3 / 5 / 10 years?

Robots may help us in our households doing daily work, in our job supporting us at reiterating routine handles, they can even cook and nurse children as well as elder people, but can they be as creative as humans. Can they handle new situations, missing fractions of a recipe, do they have ideas for reusing a product with a new signification? And can they be entrepreneurs?

Entrepreneurs have to think outside of the box. Creative thinking can bring a small, working business to another level of success. Alison Doyle1 also states that "most people associate creativity with the arts such as writing a novel, painting a picture, or composing music. While these are all

creative endeavours, not all creative thinkers are artists. Many jobs require creative thinking, including positions in the world of business and science".

3.2.2. JUDGMENT AND DECISION MAKING

New technologies will influence our way of living, working and moving in small villages as well as in the circular cities of the future. It is our duty, that villages and cities stay places for people and not only for machines and robots. This requires the forward-looking and systematic integration of environmental aspects into our political and business decisions.

Is Stewardship for next generation's part of your Decision Making? Which judgment will they render about us?

So what is it under the respect of judgment and decision making a green entrepreneur has to think about? He will foster his new ideas, create a new service or find a new way to organise his sales – nevertheless he also will have to face reduction of environmental impact of his work to individuals and society. He will have to identify and implement all savings potentials he can find, from consumption of valuable resources up to reduction of production costs. His greener products will not only introduce ecological effective production processes and greener products but also increase competitiveness and avoid expensive follow-up measures. Besides motivation of his employees preventing negative environmental impacts and reducing risk of injury will be his primary tasks.

Green entrepreneurs have to commit themselves to sustainable management

Face the challenge to unite economic success, ecological compatibility and social responsibility.

Please also have a look at the MOVECO "School of Thinking: Cradle to Cradle" in the training handbook

3.2.3. REVIVAL FOR REUSE

Using selected collecting schemes, reusable waste products are collected in a controlled manner, processed in qualified facilities and the revitalized products are delivered to the sales outlets. In order to guarantee the new owners high standards, only those products are accepted that meet defined acceptance criteria and are complete, undamaged and respectable. Quality on the used market at reasonable prices.

Examples of work and further information can be found on the internet following this link

http://www.revitalistgenial.at/header/englisch.html

3.2.4. SERVICE ORIENTATION

TrubyAchievements defines service orientation on its internet platform as "Service orientation is the ability and desire to anticipate, recognize and meet others' needs, sometimes even before those needs are articulated. Service oriented people focus on providing satisfaction and making themselves available to others."[3]

Another definition we find at HelpScout: "It's not about the product. Organizations that excel in customer service see their job as helping customers, not selling or servicing a product. Instead, the product is the vehicle for making the biggest impact on people in a specific industry."[4]

Whatever definition you prefer, a green entrepreneur who wants to make his fortune on new services will have to stick to the old wisdoms. Service means working with people not with a product!

Please also have a look at the MOVECO Qualification programme Handbook Section "Different Business Models based on Circular Economy" to find more information about "From product to a Service" and "Sharing

And another citation from HelpScout[4]: "Knowing how to help customers depends on your ability to empathize with their challenges. If you can know how they feel, you can help them to feel better, which is the most important part of a customer service job."

There's nothing to add to it!

Which services do you use in everyday life? On the job / at home? Could you imagine to be an entrepreneur a find a service you could offer?

3.3. MARKETING HINTS FOR GREEN ENTREPRENEURS

Products and services based on the concept of Circular Economy compete with serious disadvantages on the market: premium prices, unfamiliar business models tend to keep away the majority of the consumers. Goods made of recycled or biologically degradable materials are not well accepted: higher prices may come together with special user requirements. While present marketing trends push customers to continuously look for newer products, change their belongings frequently, the circular economy concept emphasises to make longer investments, repair and upgrade products already owned by the consumer.

Producers willing to follow the philosophy of circular economy face several barriers: usage of recycled materials requires a special attention on quality issues, while using biologically degradable materials may alter the habitual use of products. Production needs to be adjusted by using specialised techniques, methods, design and machinery. Anyway, the usage of these materials will result in higher expenses. Besides increased production costs they need to differentiate their goods which would require additional spending on marketing. Focus need to be shifted towards providing services rather than selling products.

At the same time, Circular Economy is not an option. The produce – use – deposit linear economy is not sustainable on the longer run. There is also a growing awareness of consumers towards eco-friendly products and services. There are already successful companies with state of the art products and services on the market. Will your company benefit from the new era? What are the fundamental marketing skills for a green entrepreneur? How to become the "Apple" of the "Green Economy"?

In the next chapters we would like to outline a few marketing techniques that could potentially help to build a marketing strategy.

3.3.1. THE 5 CUSTOMER SEGMENTS OF TECHNOLOGY ADOPTION

Circular Economy related products and services bear unconventional features that are keeping away the majority of potential customers. But not the innovators and early adaptors! Learn more about how innovative products are adopted by customers by reading the adaptation lifecycle of innovative products section (Everett M. Rogers: Diffusion of Innovations): "The 5 Customer Segments of Technology Adoption"[5] According to Rogers' research, we see that not everyone will immediately adopt a disruptive idea despite obvious benefits. Over years of research, Rogers identified some fascinating personality traits that help us organize how people will accept a new innovation. It turns out we approach innovations in the following ways.

- Innovators (2.5%) – Innovators are the first individuals to adopt an innovation. Innovators are willing to take risks, youngest in age, have the highest social class, have great financial lucidity, very social and have closest contact to scientific sources and interaction with other innovators. Risk tolerance has them adopting technologies which may ultimately fail. Financial resources help absorb these failures. (Rogers 1962 5th ed, p. 282)
- Early Adopters (13.5%) – This is the second fastest category of individuals who adopt an innovation. These individuals have the highest degree of opinion leadership among the other adopter categories. Early adopters are typically younger in age, have a higher social status, have more financial lucidity, advanced education, and are more socially forward than late adopters. More discrete in adoption choices than innovators. Realize judicious choice of adoption will help them maintain central communication position (Rogers 1962 5th ed, p. 283).
- Early Majority (34%) – Individuals in this category adopt an innovation after a varying degree of time. This time of adoption is significantly longer than the innovators and early adopters. Early Majority tend to be slower in the adoption process, have above average social status, contact with early adopters, and seldom hold positions of opinion leadership in a system (Rogers 1962 5th ed, p. 283)
- Late Majority (34%) – Individuals in this category will adopt an innovation after the average member of the society. These individuals approach an innovation with a high degree of skepticism and after the majority of society has adopted the innovation. Late Majority are typically skeptical about an innovation, have below average social status, very little financial lucidity, in contact with others in late majority and early majority, very little opinion leadership.
- Laggards (16%) – Individuals in this category are the last to adopt an innovation. Unlike some of the previous categories, individuals in this category show little to no opinion leadership. These individuals typically have an aversion to change-agents and tend to be advanced in age. Laggards typically tend to be focused on "traditions", likely to have lowest social status, lowest financial fluidity, be oldest of all other adopters, in contact with only family and close friends, very little to no opinion leadership.

?

Which Ones Are Your Customers?

It is important to note that individuals do not always line up as "Innovators" in all areas of their decision making processes. For example, a person may adopt cutting-edge green technologies for their home with solar heating and yet not belong to an online social network or own a smartphone.

3.3.2. ARE YOU MANIPULATING OR INSPIRING?

There are two ways of influencing consumer behaviour: you can manipulate it or you can inspire it. Typical manipulations include dropping the price, running a promotion, using fear, peer pressure etc.

When companies do not have a clear sense of why their customers are their customers, they tend to rely on a disproponiate number of manipulations to get what they need.

- Price: For the seller, selling based on price is like heroin. The short-term gain is fantastic, but the more you do it, the harder it becomes to kick the habit. Once buyers get used to paying a lower-than-average price for a product or service, it is very hard to get them to pay more.
- Fear: Fear, real or perceived, is arguably the most powerful manipulation.
- Peer pressure: When marketers report that a majority of a population or a group of experts prefers their product over another, they are attempting to sway the buyer to believing that whatever they are selling is better. Peer pressure works not because the majority or the experts are always right, but because we fear that we may be wrong.
- Novelty: Real innovation changes the course of industries or even societies, like the light bulb, the microwave and iTunes. Adding a camera to a mobile phone is not an innovation – a great feature, but not industry altering. Novelty can drive sales but the impact does not last. If a company adds too many novel ideas too often, it can have a similar impact on the product or category as the price game. In an attempt to differentiate with more features, the product start to look and feel more like commodities and, like price, the need to add yet another product to the line of compensate for the communisation ends in a downward spiral."[6]

What other manipulative techniques are you using? And what techniques can you recognise around you?

"Manipulations lead to transactions, not loyalty

For transactions that occur an average of once, carrots and sticks are the best way to elicit the desired behaviour. Manipulations are perfectly valid strategy for driving a transaction. But it is the feeling of "we´re in this together" shared between customer and company that defines great leaders."[6]

3.3.3. THE GOLDEN CIRCLE (START WITH WHY!)

The followings are the summary based on the Ted talk of Simon Sinek. More can be read in detail in his book: "Start With Why"

Instead of manipulating, you can choose to inspire your clients, customers and your colleagues too. With this decision, you may enter a club of a few: inspiring, motivating leaders who share many common things in their actions and communications. Their behaviour is almost the opposite of those, who stay with manipulative techniques. Simon Sinek describes this behaviour with the parallel of "The Golden Circle".

"His Golden Circle offers an interesting insight in to why some leaders and organisations have achieved such an exceptional degree of influence, and he uses Apple as an example of an organisation that's able to innovate in so many diverse industries. The Golden Circle shows how some leaders are able to inspire action instead of manipulating people to act. Here is his explanation and how it starts from the inside out. It all starts with WHY.

- WHAT: Every single company and organisation on the planet knows WHAT they do. This is true no matter how big or small, no matter what industry. Everyone is easily able to describe the products or services a company sells or the job function they have within the system. WHATs are easy to identify.
- HOW: Some companies and people know HOW they do WHAT they do. Whether you call them a "differentiating value proposition" or "unique selling proposition," HOWs are often given to explain how something is different or better. Not as obvious as WHATs , and many think these are the differentiating or motivating factors in a decision. It would be false to assume that's all that is required. There is one missing detail.
- WHY: Very few people or companies can clearly articulate WHY they do WHAT they do. This isn't about making money – that's a result. WHY is all about your purpose, cause or belief. WHY does your company exist? WHY do you get out of bed in the morning? And WHY should anyone care?

When most organisations or people think, act or communicate they do so from the outside in, from WHAT to WHY. And for good reason – they go from the tangible to the intangible. We say WHAT we do, we sometimes say HOW we do it, but rarely say WHY we do WHAT we do.

But not the inspired leaders and companies. Every single one of them, regardless of their size or industry, thinks, acts and communicates from the inside out.

When we're selling from the inside out, the WHY is the reason we might buy and the WHATs serve as the tangible proof of that belief.

When an organisation articulates their WHY and we believe it, then we go above and beyond to include their offerings in our lives. We embrace their beliefs, not because they're necessarily better, but because they represent values that are important to us. They make us feel like we belong and these organisations are the ones that create loyal fan bases, and brand ambassadors."[7]

3.4. CONCLUSION / TAKE-HOME-MESSAGES

In the course we took only a few examples of skills to reflect on them and to look at related case studies; so you are invited to think about the others on your own – see also the headings for the worksheet template!

Besides skills every "green" entrepreneur needs I would like to stress here that circular economy and the fourth industrial revolution will not be resolved by lonely warriors, its team work what we need in the future! We have to build teams to encourage expertise and knowledge and we have to include our stakeholders.

So I would like to release you to the workshop part with a citation from the Module "Team Building" in the Circular Design Guide:

"As with all design processes, interdisciplinary teams are important when designing for the circular economy. Through diversity of knowledge and thinking, interdisciplinary teams can be transformative. In order to think holistically, you will benefit from having a variety of perspectives and skillsets. The strength of such teams is often gained through creative friction – a key element to creating new ways of doing things."[1]

4. NOTES

4.1. FOR TRAINERS: HOW TO WORK WITH THIS SECTION IN THE WORKSHOP

The material of the Fundamental Business Skills for Green Entrepreneurs section of the MOVECO toolbox is designed in a modular way, so that you can tailor the workshop to the SMEs in the audience and the time available. Here is how:

1) Go through the PowerPoint presentation and choose the examples you would like to include and remove the others from the presentation. Make sure you also read the "notes for trainers" notes that are included in the notes of the presentation (below the slides in the notes view) to prepare your session.
2) Select the matching case studies from the handbook to work with in the workshop.
3) Prepare your introductory lecture; you can use the information from the notes in the presentation as well as from the handbook. In addition, there are links and reading recommendations that can help you. You may choose to direct your participants/readers to those for further reading at the end of the workshop as well.
4) Prepare the basic outline for the discussion of the case studies (starting questions, time frame, etc.) and start the discussion with the participants. Then make sure to step back a little and encourage the discussion among the participants. You may choose to take notes yourself for a concluding summary or assign the task to the group members.
5) Direct the participants to their own analysis with the empty worksheet templates, encouraging them to get creative and think outside the box. Make sure you stress that there are no "wrong" answers, but that this is an exercise for coming up with new ideas and possibilities – which naturally do not all lead to success eventually. Be ready to assist and answer questions. Depending on the background of the participant, this can be done in individual work time or as group work – decide.
6) Give the participants enough time to sum up their own analysis and then encourage them to present it to the group. Make sure the group respects the individual ideas by stressing again that this is about creative ideas and not "right" or "wrong", invite them to add comments or suggestions to the individual contributions.
7) Finish the session with the quiz, point to additional reading and take up comments and suggestions (also to improve further editions of the workshop)
8) Do not forget to ask the participants for an evaluation with the evaluation form.

4.2. FOR WORKSHOP PARTICIPANTS AND SELF-STUDY READERS: HOW TO WORK WITH THIS SECTION IN THE WORKSHOP OR ON THEIR OWNS

There are **two ways** that you can work with this section of the MOVECO toolbox. Here is how:

In a workshop

The material of the Fundamental Business Skills for Green Entrepreneurs section of the MOVECO toolbox is designed in a modular way, so that the trainer will put together a workshop that is tailored to the audience and guide you through it. This section of the toolbox is hands-on, which means that will be plenty of room for **discussions** and **bringing in your own ideas**. The focus is on the creative process to come up with new ideas and creative solutions – there are no "right" or "wrong" answers, so please **contribute lively** with your own ideas and suggestions. We encourage you to **take notes** in case you want to come back to the material later. The handbook in the end will serve as your repository, where you can look up information and find suggestions for **further reading**.

Self-study

If you do not have the possibility to attend a workshop, you can nevertheless use the materials provided for self-study and find out all about material pathways for yourself. It is suggested that you proceed in the following order and take notes as you go along.

1) Read the **introduction** in the handbook
2) Look at the **presentation** with all the examples
3) Go back to the handbook and read the background information provided for each **case study** (or a selection, as you with).
4) Take an empty **worksheet template** to look at your product or production process (or, if you do not have an own example, choose one that you are somewhat familiar with). Read through the section of the handbook that explains the individual phases in chapter 2 and follow the guiding questions set there in the exercises and on the worksheet templates. The aim here is to get creative and think outside the box – just go ahead!
5) Look at the **further readings** section and the links to dig deeper into the topic

It would be a good idea to find somebody to team up with and discuss your findings – either via skype or in person. You can also try to set up your own mini-workshop by using the notes for the trainers above to guide you.

5. CASE STUDIES

5.1. CASE STUDY FOR CREATIVITY

The society "Kunst vom Rand" translated to English "Art from the edge" creates concepts for the valorisation of periodically accruing waste material through innovative redesign. These concepts should point out new possibilities in the utilization of the obsolete. They attach great importance to the simple processing of socially relevant old materials into unique new materials.

In remanufacturing concepts the existing material is analysed according to articles, quantities, sizes, availability etc. and a sensible remanufacturing concept is developed on the basis of this information. Machining possibilities, exemplary production steps, technical production problems are determined. The chairman Mr. Josef-Michael Pfeiffer defines his work like this: "Everyone is equally involved in the overall concept according to his or her feelings, experiences and talents. The creative inhalation and exhalation in different rhythms. It is not a matter of searching but of finding. The found inspires, ideas meet, complement each other and merge. This promotes the creativity of all those involved. It is also essential to uncover hidden talents and enjoy working together."

Examples of work and further information can be found on the internet following this link

https://kunstvomrand.jimdo.com/

5.2. CASE STUDIES FOR JUDGMENT AND DECISION MAKING

Closed recycling circuit for batteries!

The Umweltforum Starterbatterien organizes the collection and disposal of vehicle batteries accumulating in Austria (lead-acid batteries) and thus makes a significant contribution to the high overall rate of return of vehicle batteries in Austria. Founding member Banner Batteries in this way recycles 100% of its batteries!

Please also have a look at the MOVECO brochure "Your Trash is my Treasure" and the best practise examples you can find there!

Examples of work and further information can be found on the internet following this link

https://www.bannerbatterien.com/en/Company/Sustainability-and-Environment

A very similar approach is done by SC Rombat SA. As a manufacturer of lead acid batteries for vehicles, SC Rombat SA has committed to a holistic battery recycling approach.

SC Rombat SA collects used batteries and processes them at the REBAT facility in Copsa Mica, which is certified according to ISO 14001 (Environmental Management System).

The first tests for the recycling of batteries already took place in 2005. Since then, the yield of lead extraction has steadily increased. The current capacity is up to 20,000 tons per year. Since the expansion of Rombat's production processes, the quality of recovered lead is comparable to that of the largest European producers.

The recycling process allows reuse of over 83% of the original battery weight. Both the plastic and the lead and the lead alloy are used for the production of new batteries.

With these processes, Rombat can save valuable natural resources in Romania. In addition, environmental pollution is avoided by discarded batteries. In addition to environmental benefits, Rombat can sell its batteries at a lower price through the recycling process.

Examples of work and further information can be found on the internet following this link

https://www.rombat.ro/en/company/mission-and-values/

5.3. CASE STUDIES FOR SERVICE ORIENTATION

Turn old into new!

A general overhaul from Rosenbauer quickly updates your fire-fighting vehicle with the latest technology. Municipal and initial attack vehicles as well as industrial and air crash tenders can be fitted with the latest fire-fighting equipment. Even individualized suggestions for modernization are possible. All installed modules come from the latest product lines and reflect the best quality.

Examples of work and further information can be found on the internet following this link

https://www.rosenbauer.com/en/de/rosenbauer-world/service/in-use-around-the-world/repairs-and-general-overhauls

Deposit Cup for Coffee-to-go

In Germany alone, approximately 2.8 billion disposable cups are used for coffee-to-go every year and thrown away after a single use - 320,000 cups per hour. Apart from the fact that a stack of cups could be built up to the moon, this also means unnecessary consumption of resources and an unnecessary burden on us and our environment.

RECUP does without all this and has a solution at hand: coffee in a stylish returnable cup - and this in a practical deposit system.

Examples of work and further information can be found on the internet following this link

https://recup.de/

6. TEMPLATES OF WORKSHEETS

In the following, there is an empty worksheet template to work with in a workshop or individually. Select a heading and design your individual training / working profile.

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordination with others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility
11. Leadership
12. Risk taking
13. Strong Work Ethic

Current situation

Training and education forms	Kind of job you need it for	Scenario if not available	Importance for green entrepreneur

Potential future situation

Training and education forms	Kind of job you need it for	Scenario if not available	Importance for green entrepreneur

Another template for an exercise about "Marketing Hints for Green Entrepreneurs" would be the following:

Firstly, listen to the TED talk of Simon Sinek: „How great leaders inspire action" (https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action)

Now, take some time (could be a few hours) and think about and answer the following questions:

1. What is your WHY? What do you want to change?

2. What are you living for?

3. Why are you in business?

4. How do you accomplish your mission?

5. What do you need to do?

6. Where will your customers/clients/partners come from?

7. QUESTIONS & ANSWERS

7.1. QUIZ – QUESTIONS

This quiz can be used at the end of the workshop to check whether the key content has been understood and to sum up the most relevant take-home-messages.

What are skills entrepreneurs need?

☐ Creative Thinking

☐ Strong Work Ethic

☐ Pragmatism

☐ Leadership

☐ Lone Warrior

☐ Risk Taking

Who will take offer creative decisions in the next 5 years?

☐ Robots with artificial intelligence.

☐ Maybe later, it will stay with humans the next 5 years.

Can you remember the case studies for Judgment and Decision Making?

☐ Rosenbauer

☐ Banner

☐ Coffe to Go

☐ Revital

How would you define service orientation?

☐ Making a product easier to handle.

☐ Help the customer to feel better.

☐ Offer price reduction.

Why is team building important?

☐ Fight unemployment.

☐ Nobody knows everything.

☐ Encourage expertise and knowledge.

☐ Offer all your friends a job.

Are skills for green entrepreneurs something complete new?

☐ Yes, the future will change everything.

☐ No, it's a natural evolution to new skills.

☐ There or no new skills necessary at all.

7.2. QUIZ – SOLUTIONS

What are skills entrepreneurs need?

☑ Creative Thinking

☑ Strong Work Ethic

☐ Pragmatism

☑ Leadership

☐ Lone Warrior

☑ Risk Taking

Who will take offer creative decisions in the next 5 years?

☐ Robots with artificial intelligence.

☑ Maybe later, it will stay with humans the next 5 years.

Can you remember the case studies for Judgment and Decision Making?

☐ Rosenbauer

☑ Banner

☐ Coffe to Go

☑ Revital

How would you define service orientation?

☐ Making a product easier to handle.

☑ Help the customer to feel better.

☐ Offer price reduction.

Why is team building important?

☐ Fight unemployment.

☑ Nobody knows everything.

☑ Encourage expertise and knowledge.

☐ Offer all your friends a job.

Are skills for green entrepreneurs something complete new?

☐ Yes, the future will change everything.

☑ No, it's a natural evolution to new skills.

☐ There or no new skills necessary at all.

8. GLOSSARY

Glossary

- **Bio-based material:** ""Bio-"is Greek for life. Bio-based material refers to a products main constituent consisting of a substance, or substances, originally derived from living organisms. These substances may be natural or synthesized organic compounds that exist in nature. This definition could include natural materials such as leather and wood, but typically refers to modern materials. Many of the modern innovations use bio-based materials to create products that biodegrade. Some examples are: cornstarch, derived from a grain and now being used in the creation of packaging pellets; bio-plastics created with soybean oil, now being used in the creation of many modern products like tractors, water bottles, and take away cutlery." [1] **Biodegradable material**: "A material which microorganisms can break down into natural elements (i.e. water, biomass, etc.)."[2]
- **Biological metabolism** - The natural processes of ecosystems are a biological metabolism, making safe and healthy use of materials in cycles of abundance[3]
- **Biological Nutrient** - A material used by living organisms or cells to carry on life processes such as growth, cell division, synthesis of carbohydrates and other complex functions. Biological Nutrients are materials that can biodegrade safely and return to the soil to feed environmental processes[4]
- **Cascading**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Compostable material**: "Materials that can be disposed with biological materials and decay into nutrient-rich material."[5] **Circular economy** - regenerative economy in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing energy and material loops
- **Cradle-to-Cradle®:** see MOVECO fact sheet "Supporting Tools for a Circular Economy"
- **Cradle to Grave** – "A Cradle to Grave system is a linear model for materials that begins with resource extraction, moves to product manufacturing, and, ends with a "grave" – when the product is disposed of in a landfill or incinerator"[6]
- **Decision** – "shall be binding in its entirety. A decision which specifies those to whom it is addressed shall be binding only on them"[7]

---

[1] https://sustainabilitydictionary.com/2006/02/17/bio-based-material/ (26.03.2018) // "A material that is partially, or entirely made of biomass." https://www.ceguide.org/Glossary (26.03.2018)
[2] https://www.ceguide.org/Glossary (26.03.2018)
[3] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[4] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[5] https://www.ceguide.org/Glossary (26.03.2018)
[6] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[7] European Network of Environmental law Organizations 2012 Implementation of the Waste Framework Directive in the EU Member States

- **Directive** – "shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods"[8]
- **Down-cycle** - to recycle (something) in such a way that the resulting product is of a lower value than the original item : to create an object of lesser value from (a discarded object of higher value)[9] see: MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Eco-Effectiveness** – "The central strategy in the cradle-to-cradle development method and seeks to create industrial systems that emulate healthy natural systems. The central principle of eco-effectiveness is that "waste equals food." The concept was developed in response to some of the perceived limitations of eco-efficiency which critics claim only slow down the rate of environmental depletion and don't reverse the production of unused or non-recycled waste".[10]
- **Eco efficiency** – "Management philosophy that aims at minimizing ecological damage while maximizing efficiency of the firm's production processes, such as through the lesser use of energy, material, and water, more recycling, and elimination of hazardous emissions or by-products."[11]
- **Ecological sustainability** – "a bio-centric school of sustainability thinking that, based on ecology and living systems principles, focuses on the capacity of ecosystems to maintain their essential functions and processes, and retain their biodiversity in full measure over the long-term contrasts with technological sustainability based on technical and engineering approaches to sustainability"[12]
- **Ecosystem** - the interactive system of living things and their non-living habitat[13]
- **Ecosystem redesign** - a coherent framework for redesigning our landscapes, buildings, cities, and systems of energy, water, food, manufacturing and waste through the effective adaptation to and integration with nature's processes[14]
- **Energy efficiency**: "Energy efficiency improvements refer to a reduction in the energy used for a given service (heating, lighting, etc.) or level of activity. The reduction in the energy consumption is usually associated with technological changes, but not always since it can

[8] European Network of Environmental law Organisations 2012 Implementation of the Waste Framework Directive in the EU Member States

[9] Merriam Webster dictionary

[10] https://sustainabilitydictionary.com/2005/12/03/eco-effectiveness/visited 26/02/2018

[11] http://www.businessdictionary.com/definition/eco-efficiency.html -visited 01.03.2018

[12] Orr D (1992) Ecological literacy: education and the transition to a post-modern world. State University of New York Press, Albany.

[13] Tansley AG (1935) The use and abuse of vegetational concepts and terms. Ecology 16:284–307 doi:10.2307/1930070

[14] with adaptations from https://www.researchgate.net/publication/301966198_Regenerative_Development_regenerative_development_and_Design (26.06.2018)

also result from better organization and management or behavioral changes ("non-technical factors").”[15]

- **Energetic use**: incineration of waste material that includes the use of the generated heat and energy for other processes
- **(Final) disposal**: see MOVECO fact sheet “Circular Economy: Terms & Definitions”
- **Incineration**: Waste destruction in a furnace by controlled burning at high temperatures. Incineration removes water from hazardous sludge, reduces its mass and/or volume, and converts it to a non-burnable ash that can be safely disposed of on land, in some waters, or in underground pits. However, it is a highly contentious method because incomplete incineration can produce carbon monoxide gas, gaseous dioxins, and/or other harmful substances.[16]
- **Innovation** - production or adoption, assimilation, and exploitation of a value-added novelty in economic and social areas[17]
- **Landfilling**: “The disposal and burying of solid waste. The degradation of the waste results in the creation of local air and water pollution.”[18]
- **Lean production** - approach to management that focuses on cutting out waste, whilst ensuring quality[19]
- **Life-cycle** - series of stages in form and functional activity through which a system passes between successive recurrences of a specified primary stage[20]
- **Life-cycle analysis**: see MOVECO fact sheet “Supporting Tools for a Circular Economy”
- **Life-time** - the duration of the existence of a given particular system[21]
- **Locational patterns** - the patterns that depict the distinctive character and potential of a place and provide a dynamic mapping for designing human structures and systems that align with the living systems of a place[22]
- **Negative externality** - occurs when production and/or consumption imposes external costs on third parties outside of the market for which no appropriate compensation is paid[23]
- **Optimization** - finding an alternative with the most cost effective or highest achievable performance under the given constraints, by maximizing desired factors and minimizing undesired ones[24]

---

[15] https://hub.globalccsinstitute.com/publications/energy-efficiency-recipe-success/definition-and-scope-energy-efficiency (26.03.2018)
[16] http://www.businessdictionary.com/definition/incineration.html (27.06.2018)
[17] with adaptations from http://www.ericshaver.com/the-many-definitions-of-innovation/ (27.06.2018)
[18] https://www.ceguide.org/Glossary (26.03.2018)
[19] with adaptations from https://www.tutor2u.net/business/reference/introduction-to-lean-production (27.06.2018)
[20] https://www.merriam-webster.com/dictionary/life%20cycle (26.06.2018)
[21] With adaptations from https://en.wikipedia.org/wiki/Lifetime (26.06.2018)
[22] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (25.06.2018)
[23] with adaptations from https://www.economicshelp.org/micro-economic-essays/marketfailure/negative-externality/ (26.06.2018)
[24] http://www.businessdictionary.com/definition/optimization.html (26.06.2018)

- **Permaculture** - a system of agricultural and social design principles centered around simulating or directly utilizing the patterns and features observed in natural ecosystems[25]
- **Place** - the unique, multi-layered network of ecosystems within a geographic region that results from the complex interactions through time of the natural ecology (climate, mineral and other deposits, soil, vegetation, water and wildlife, etc.) and culture (distinctive customs, expressions of values, economic activities, forms of association, ideas for education, traditions, etc.)[26]
- **Recommendations and opinions** - shall have no binding force [27]
- **Recycling:** see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Refurbishment:** "The refurbishment of something is the act or process of cleaning it, decorating it, and providing it with new equipment or facilities."[28]
- **Regenerative design** - a system of technologies and strategies, based on an understanding of the inner working of ecosystems that generates designs to regenerate rather than deplete underlying life support systems and resources within socio-ecological wholes[29]
- **Regenerative development** - a system of technologies and strategies for generating the patterned whole system understanding of a place, and developing the strategic systemic thinking capacities, and the stakeholder engagement/commitment required to ensure regenerative design processes to achieve maximum systemic leverage and support, that is self-organizing and self-evolving[30]
- **Regulation** - shall have general application. It shall be binding in its entirety and directly applicable in all Member States. – Source - Article 288 TFEU, [31]
- **Remanufacturing:** "The process of cleaning and repairing used products and parts to be used again for replacements."[32]
- **Restorative design** - sometimes called restorative environmental design; a design system that combines returning polluted, degraded or damaged sites back to a state of acceptable health through human intervention[33]
- **Resource efficiency**: "A percentage of the total resources consumed that make up the final product or service."[34] re-use: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Secondary resource/ secondary raw materials:** "Waste materials that are recovered, recycled and reprocessed for use as raw materials."[35]

---

[25] https://en.wikipedia.org/wiki/Permaculture (27.06.2018)
[26] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (25.06.2018)
[27] http://eur-lex.europa.eu/summary/chapter/environment.html?root_default=SUM_1_CODED%3D20,SUM_2_CODED%3D2003&locale=en
[28] https://www.collinsdictionary.com/de/worterbuch/englisch/refurbishment (26.03.2018)
[29] Mang, Pamela & Reed, Bill. (2017). Update Regenerative Development and Design 2nd edition.
[30] https://www.sciencedirect.com/science/article/pii/S2212609015300327 (26.06.2018)
[31] http://eur-lex.europa.eu/legal-content/en/TXT/HTML/?uri=CELEX:12016E288
[32] https://sustainabilitydictionary.com/2005/12/03/remanufacturing/ (26.03.2018)
[33] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (24.06.2018)
[34] https://sustainabilitydictionary.com/2005/12/03/remanufacturing/ (26.03.2018)
[35] https://sustainabilitydictionary.com/2005/12/03/remanufacturing/ (26.03.2018)

- **Servitization** - refers to industries using their products to sell "outcome as a service" rather than a one-off sale[36]
- **Source to sink** - simple linear flows from resource sources (farms, mines, forests, watershed, oilfields, etc.) to sinks (air, water, land) that deplete global sources and overload/pollute global sinks[37]
- **Stewardship** - ethic of companies, organizations and individuals that embodies the responsible planning and management of resources[38]
- **Sourcing:** "the act of getting something, especially products or materials, from a particular place"[39]
- **System thinking** - holistic approach of analysis and planning that focuses on the way the parts of a system interrelate each other and how systems work over time and within the context of larger systems[40]
- **Technical metabolism** - "Modelled on natural systems, the technical metabolism is MBDC's term for the processes of human industry that maintain and perpetually reuse valuable synthetic and mineral materials in closed loops"[41]
- **Technical nutrient** – "A material that remains in a closed-loop system of manufacture, reuse, and recovery called the technical metabolism, maintaining its value through infinite product life cycles "[42]
- **Upcycle** – "to recycle (something) in such a way that the resulting product is of a higher value than the original item: to create an object of greater value from (a discarded object of lesser value)"[43]
- **Upcycling**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"
- **Waste**: see MOVECO fact sheet "Circular Economy: Terms & Definitions"

More: https://www.ceguide.org/Glossary

[36] https://www.k3syspro.com/servitization/ (24.06.2018)
[37] https://www.researchgate.net/publication/273379786_Regenerative_Development_and_Design (25.06.2018)
[38] https://en.wikipedia.org/wiki/Stewardship (24.06.2018)
[39] https://dictionary.cambridge.org/dictionary/english/sourcing (26.03.2018)
[40] https://searchcio.techtarget.com/definition/systems-thinking (27.06.2018)
[41] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[42] Cradle to Cradle terminology – MBDC-http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=26
[43] Merriam Webster dictionary

9. REFERENCES

Sources

1 https://www.thebalancecareers.com/list-of-skills-entrepreneurs-need-2062391

2 https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/

3 http://www.trubyachievements.com/service_orientation.html

4 https://www.helpscout.net/blog/customer-oriented/

5 Everett M. Rogers: Diffusion of innovations. Free Press u. a., New York NY u. a. 1962 https://ondigitalmarketing.com/learn/odm/foundations/5-customer-segments-technology-adoption/

6 Simon Sinek, Summary by Kim Hartman http://www.kimhartman.se/wp-content/uploads/2012/07/Start-with-why-by-Simon-Sinek.pdf;

7 Andy Partridgeon : Executive Summary: The Golden Circle with Simon Sinek; August 27, 2014; source: https://enviableworkplace.com/executive-summary-golden-circle-simon-sinek/

Picture Credits

Cover design by IDEEN DIE FRUCHTEN

Further reading / links

MOVECO documents

- MOVECO 2017. Brochure "Your trash is my treasure". http://www.interreg-danube.eu/approved-projects/moveco/section/best-practice
- MOVECO 2018. Checklist to support SMEs. http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/18/d80bd307d6bb83b4d1afe341dae0b177a96a2259.pdf
- MOVECO 2018. Fact Sheet - Supporting Tools for a Circular Economy. http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/14/572a016a8d386225c44c5870f4cb3188461d299b.pdf
- MOVECO 2018. Fact Sheet - Circular Economy: Terms and Definitions http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/14/b61410d76c124dcc94d55ff624be01f53972e29f.pdf
- MOVECO 2018. Fact Sheet - Information on Circular Economy. http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/14/b61410d76c124dcc94d55ff624be01f53972e29f.pdf

EU circular economy key documents

- Circular Economy - Implementation of the Circular Economy Action Plan http://ec.europa.eu/environment/circular-economy/index_en.htm
- Towards a circular economy https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en
- Circular economy https://ec.europa.eu/growth/industry/sustainability/circular-economy_en
- Circular economy - overview http://ec.europa.eu/eurostat/web/circular-economy

10. IMPRINT

This document is a publication within the MOVECO project.

Full title: MOVECO – Mobilising Institutional Learning for Better Exploitation of Research and Innovation for the Circular Economy

Project duration: 12/2016–05/2019

Project code: DTP 1-349-1.1

Funding scheme: As part of the Danube Transnational Programme, MOVECO is an Interreg project, co-funded by the European Regional Development Fund (ERDF) and the Instrument for Pre-Accession Assistance (IPA).

Lead partner of the project

Chamber of Commerce and Industry of Slovenia
Dimičeva 13
SI-1504 Ljubljana
Slovenia
www.gzs.si

Lead partner of this deliverable

Chamber of Commerce and Industry Bistrita-Nasaud
Str. Petre Ispirescu nr. 15A
RO - 4400 Bistrita
http://www.cciabn.ro

This document has been edited by DI Siegfried Keplinger on behalf of all project partners of the MOVECO project (project identity: DTP 1-349-1.1).