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# Journey to the destination:

# A CIRCULAR TOURISM ECONOMY

A training program for the hospitality industry to facilitate a transition towards increased circularity in the South Baltic Region

Lindell L., Sattari S., Dziadkiewicz, A., Dmitrzak, M., & Kordestani, A. (Editors).

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Journey to the destination: A circular tourism economy

A **training program** for the hospitality industry to facilitate a transition towards increased circularity in the South Baltic Region

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Film 1 Starting the Journey to Circular Economy
Film 2 Energy in a Circular Economy
Film 3.1 Business Model Innovation for Circular Economy
Film 3.2 Design Thinking tools for Circular Economy
Film 4 Marketing Mix of Circular Services

A Linnaeus University production (2019) in collaboration with the Energy Agency of South East Sweden and supported by Pomerania Development Agency Co., Poland and Klaipeda Chamber of Commerce, Industry and Craft, Lithuania.
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# FOREWORDS

Being aware of the extent of the tourism industry and that it is ever growing, which is also encouraged in many individual countries by the national and regional governments, it is evident that the tourism industry is an essential target group for introducing circular concepts and implementing circular solutions. Yet, this sector has so far received little attention in the literature and initiatives on circularity.

Circular Economy (CE) goes beyond "green" or "environmental", it includes all aspects of a community and challenges us to create solutions that are completely different from what we are used to. It also invites us to open up and interact with other stakeholders and the general public.

In your hands is the first training material in circular economy specifically developed for small to medium sized companies of the tourism industry in the South Baltic Region. It is a small but important step in the direction towards circularity and a well-being society. Through this work we have shown that despite cultural challenges and regional differences there is a shared, common interest in making tourism more sustainable and even to work together towards a transformation of the hospitality industry. This common vision has been stronger than the challenges we faced in making this work and this is what will ensure the continued growing awareness on circularity and its integration in different sectors in our communities. In this work we have featured some of the groundbreaking experts in this field, and some of the first good practices from our regions. They are all courageous pioneers in a field that with time will become the norm. In fact, in the 10th Annual Forum of the EU strategy for the Baltic Sea Region (12-13/6/2019, Gdansk, Poland), CE was highlighted as the pathway to reach prosperity and well-being in the Baltic Sea Region.

*Lina Lindell,*

*PhD Environmental Sciences & Wellbeing, coordinator of this Training Program in CE developed in the CIRTOINNO project*

# INTRODUCTION

# INTRODUCTION

The circular economy (CE) is already an implemented economic model in many countries around the world. It mainly concerns the planning and management of resources from the perspective of the entire value chain, i.e. from production to consumption and waste management, if any. Stimulates the search for innovative technological, organizational solutions and business models including benefits for the environment, business entities and the customer or society (win-win-win). Therefore, CE covers many areas, i.e. sharing economy, sustainable consumption, promoting sustainable and energy-saving products, increasing the role of services, repairs, reuse, wider use of renewable resources of toxic substances, the transition from pay-for-ownership to paying for use (pay-for-use), etc.

In accordance with the assumptions of the package developed by the European Commission (EC), taking actions leading to the transition to a circular economy are one of the most important factors of economic growth and competitiveness of Europe. This is confirmed by the analyzes contained in the latest EC report. It was pointed out that in 2016 closed-loop activities such as repair, reuse or recycling generated almost EUR 147 billion in added value, contributing to investments worth around EUR 17.5 billion. In addition, more than four million employees were employed in sectors important for circular economy in 2016, which was an increase of 6% compared to 2012. Changes in regulations and proposals for new solutions mainly concerned sectors such as construction, transport, food, packaging. These industries can significantly support sustainable tourism, which was one of the first to introduce CE models, e.g. sharing.

Europe is the most popular tourist destination in the world, and tourism plays a huge role in the development of many European regions. In 2017, around 500 million foreign tourists (40% of world tourism) visited EU countries, spending EUR 342 billion, of which 44% in hotels. According to Eurostat, there are 2.3 million enterprises in the EU in this sector, mainly SMEs, employing 12.3 million people. The new CE solutions in tourism relate to both purchasing policy (supplying local and eco-labeled products), resource management (reducing energy, fuel and water consumption), reducing food waste, and minimizing the amount of waste generated (preferring reusable products).

During the implementation of the CIRTOINNO project financed under the Interreg South Baltic program good practices and interesting solutions aligned with CE principles were identified. The presented results allows the promotion of circular economy innovations developed by SMEs in the Baltic Sea region, as well as to identify challenges and development directions in tourism resulting, among others, from the need to adapt to the needs of an increasingly aware customer. Within the framework of the project the first worldwide handbook on CE in hospitality was developed, as well as a self-assessment tool, a training program (the one you are currently reading) and a consulting model. Openness to the environment and evaluation of activities throughout the entire value chain is also a great opportunity to strengthen cooperation with local suppliers, start-ups and NGOs, especially in the context of significant funding of innovative CE projects announced.

For domestic entities, this is important because Poland has actively joined the mainstream of circular economy by developing in the Ministry of Entrepreneurship and Technology the "Roadmap for transformation towards a circular economy", which was adopted by the Council of Ministers in September 2019. CE has also been one of the National Smart Specializations since January 2019. Therefore, it can be expected that eco-innovative solutions will be implemented in many areas of the economy.

In turn, Lithuania - apart from strategic documents - implements a number of direct actions spending EUR 697 million on environmental protection and giving high priority to waste management infrastructure, energy efficiency and promotion of renewable energy sources. The law on packaging management and packaging waste adopted in 2001 brought about compliance with new environmental standards, including by obliging major retail chains in the country to accept used glass, metal or plastic from consumers in exchange for discounts. This resulted in the recycling of plastic packaging waste at 74.4%.

In the meantime, Sweden is preparing the program assumptions for circular economy at the national level - it practically does not store its waste, in particular affecting the condition of the natural environment, which is so important for tourism. The Swedes also systematically face the challenge of reducing further sources of $CO_2$ emissions, which effectively limits the adverse impact on nature in many aspects. Sweden is at the forefront of in increasing production efficiency (including $CO_2$ emissions), reducing resource consumption, waste management, and increasing the share of renewable energy.
Diversified advancement and ambitious

goals underpin the creation of diverse support tools for SMEs - facilitating operations directly at company level. Therefore, the workshop model was developed with the participation of a number of different actors namely the Linnaeus University and the Energy Agency of Southeast Sweden in Sweden; Pomerania Development Agency Co., and the Szewalski Institute of Fluid-Flow Machinery, Polish Academy of Sciences in Poland; the Chamber of Commerce, Industry and Craft in Klaipeda and the Strategic Self-Management Institute in Lithuania.

The training model was developed and tested to provide an international standard of education for tourism SMEs in the direction of increasing their ability to implement the principles of circular economy in business.

In the final version presented in this report, the user (trainer, self-learning or during workshops) can navigate a chosen educational path. We suggest the following paths:

- at the very beginning, the non-technological path provides general knowledge about the circular economy and its prospects in tourism. We show why it is worth and how you can create goodwill based on CE. This path is marked by the way companies (the tourism industry) think about their services, as these services can effectively change in the spirit of future standards expected by customers. For this purpose, we also provide support for the design thinking (DT) workshop, which in this case focuses on designing services. We also join this method of modern marketing to indicate how to promote new closed-loop tourism services, but also to involve clients primarily in these activities. Innovations in the business model (BMI) are at the interface of paths. A revolution in the approach to the services offered can also bring reflection in the structure of the organization - what resources do we use, but above all: how? We ask the question: Do we need resources or effects of energy, devices, people? Through this module, we aim to get your own answer to this question.
- the technological path introduces you to the world of energy feeding your companies. It is also a source of costs charged to organizations. The module dedicated to energy efficiency gives the opportunity to rationalize the consumption of gas, electricity, water and other energy carriers - towards greater efficiency and greater independence of the organization from external suppliers.

*Joanna Kulczycka,*

*Mineral and Energy Economy Research Institute Polish Academy of Science, Cracow*

# METHODOLOGY

This training material was developed in a cross-border collaboration between experts in circular economy and the specific topics presented in the themes of energy efficiency, business model innovation, design thinking and marketing, from Sweden, Poland, and Lithuania. The module themes just mentioned were chosen taking in to consideration the needs and interests from the three geographical regions participating in the CIRTOINNO project, as well as the specific expertise of the participant organisations (Table 1).

Table 1. Participating organisations in the CIRTOINNO project co-creating this training program in circular economy.

| Country | Organisation |
|---|---|
| Sweden | Linnaeus University |
| | Energy Agency for Southeast Sweden |
| Poland | Pomerania Development Agency Co. |
| | The Szewalski Institute of Fluid-Flow Machinery, Polish Academy of Sciences |
| Lithuania | Klaipeda Chamber of Commerce, Industry and Craft |
| | Strategic Self-Management Institute |

In the development process of the training material it was essential to consider regional similarities and differences as well as to find a common platform and vision. Most modules were developed predominantly within one geographical region with feedback from the other country regions. Introduction to CE and Design Thinking were mainly authored in Poland and Marketing in Sweden, while Business Model Innovation was a co-lead effort by experts in Poland and Lithuania. The Energy efficiency module was developed with substantial contribution from all countries given its nature of having significant differences between the regions. The division of theme between regions was based on the specific competencies of the partners, and the work was supported by external experts. The Energy Agency for Southeast Sweden coordinated the development of the energy efficiency module - Energy in a Circular Economy. The overarching coordination of the training material development was carried out by Linnaeus University in Sweden. Over the years of 2017-2019 the workgroup developing the training had continuous contact and online meetings as well as several physical work meetings (on Bornholm, in Malmö, Gdańsk and Palanga) in addition to a number of pilot workshops and filming locations presented below (Table 2-4).

The material was further developed in an interactive process together with representatives of small to medium sized businesses in the tourism industry. These SMEs represented restaurants, hotels and spas. An iterative feedback process was applied where the module content was updated according to the feedback received from participants of both national and international (cross-border) workshops that served as "pilot-trainings" lead by qualified facilitators. These pilot trainings took place in spring and autumn of 2018 and in spring 2019. Note that also the regional workshops in several cases involved facilitators from one of the other regions so many of the regional workshops did have a cross-border element.

When facilitators were national the native language was used while when the facilitators were foreign the trainings were kept in English. The feedback collected consisted of questionnaires filled in by participants in the workshops as well as oral feedback from them on site and over the phone after the event, feedback from trainers, organizers as well as an evaluator representing the project consortium that followed a selection of the workshops. The individual workshops were spread out over more than a year to allow for sufficient time to receive feedback between them and integrate it in to the material. In total the number of workshops held in each country were 8, 8, and 10 in Sweden, Poland and Lithuania respectively. The total number of participants in the workshops were 225 and the number of SMEs that participated in at least one of the training modules were 106 (Table 3).

Table 2 The number of regional workshops held within the CIRTOINNO project for different modules of this training material while developing it.

| Module/Country | Sweden | Poland | Lithuania |
|---|---|---|---|
| 1. Introduction to CE | 6 | 1 | 2 |
| 2. Energy | 1 | 2 | 2 |
| 3.1 BMI | 0 | 2 | 2 |
| 3.2 DT | 0 | 2 | 2 |
| 4. Marketing | 1 | 1 | 2 |
| Total | 8 | 8 | 10 |

Table 3 The total number of participants (individual SMEs in parenthesis) in regional workshops held within the CIRTOINNO project for different modules of this training material while developing it.

| Module/Country | Sweden | Poland | Lithuania |
|---|---|---|---|
| 1. Introduction to CE | 53 (24) | 4 | 24 |
| 2. Energy | 15 (9) | 7 | 24 |
| 3.1 BMI | n/a | 11 | 24 |
| 3.2 DT | n/a | 12 (10) | 15 |
| 4. Marketing | 17 (11) | 7 (6) | 12 |
| Total | 85 (44) | 41 (38) | 99 (24) |

n/a = not relevant

In addition to the national workshops advanced cross-border workshops were held twice (Table 4). These workshops had participants, facilitators, and hosts from each of the three participating countries in order to strengthen the effect of intercultural learning and to stimulate cross-border cooperation. The cross-border pilot workshops were kept in English. Feedback was collected in a similar manner as described for the regional workshops.

The first cross-border workshop was organised at the Green Solution House (GSH) on the island of Bornholm in October 2018. This venue was chosen since GSH is the first, and still leading, facility worldwide in circular building combining Cradle to Cradle with Active House principles. They further work as a show house displaying more than 80 circular solutions on site as well as an exhibition with explaining texts. Offering the cross-border workshop at GSH gave the opportunity to the participants to receive direct experience and advice from its CEO Trine Richter from a seminar as well as tour of the building. In addition to this unique experience participants also could listen to Dr. Jesper Manniche, co-author of the first report on circular economy in the tourism industry (Manniche et al., 2019), that was produced in the CIRTOINNO project. The workshop was 3-days long and was focused on module 3.1 and 3.2, the main tools to implement circular solutions namely BMI (1 day) and DT (2 days).

The second and last cross-border workshop was held in Palanga, Lithuania in February 2019. The venue chosen in Palanga was the Atostogų Parkas Spa that was hand-picked by our Lithuanian partners as one of the most circular facilities in their region. Later in the final conference in Lithuania it showed that this facility would be one of three winners in being in the forefront in implementing circular solutions in the region. Following assessment of Lithuanian experts they won the category of "Smart growth" which includes e.g. innovative solutions in the digital and AI areas, that support efficiency, smoothness and automatization of a facility as well as scored high in the "healthy growth" category including aspects of health and safety for guests. The workshop was 2-days long and was focused on introduction to CE and Energy efficiency. Participants were invited to test the spa facilities as well as follow a tour of the building and its grounds.

Table 4 The total number of participants for cross-border workshops held within the CIRTOINNO project in the work of developing this training material.

| Module/Place | GSH, Denmark | Atostogų Parkas, Lithuania |
|---|---|---|
| 1. Introduction to CE | n/a | 11 |
| 2. Energy | n/a | 11 |
| 3.1 BMI | 11 | n/a |
| 3.2 DT | 11 | n/a |
| 4. Marketing | n/a | n/a |

n/a = not relevant

To support the training material pictures and video material was produced. The Linnaeus University was the coordinating and leading the production, filming and editing, while the Energy Agency for Southeast Sweden was directing, making the interviews and lead the script development for the films. Film locations selected were the two venues of the cross-border workshops described above, GSH (Denmark) and Atostogų Parkas (Lithuania), as well as a number of additional SMEs that have already implemented a number of circular solutions in to their businesses and thus serve as regional good examples in CE. Those were Mundekulla Retreat Center (Sweden), Notera Hotel SPA, and Avocado Vegan Bistro and Avocado Vegan Shop (Poland). In addition to good practices locations and their management and staff we also interviewed a number of experts in selected topics of circular economy (the names and affiliations are presented in the respective films to which they contribute). The video material resulted in five short films that serve as supplement to the training material in this report. They are:

Film 1 Starting the Journey to Circular Economy
Film 2 Energy in a Circular Economy
Film 3.1 Business Model Innovation for Circular Economy
Film 3.2 Design Thinking tools for Circular Economy
Film 4 Marketing Mix of Circular Services

# TRAINING TARGET GROUPS

This training material focuses on serving tourism SMEs mainly from coastal areas, both from towns and from rural areas, as well as those operating in sustainable tourism or eco-tourism in areas of special touristic value, offering:

- Accommodation services (accommodation sector)
- Food and beverage services for tourists (food and beverage sector)
- SPA facilities (part of wellness tourism) offering packages for groups and individuals.

Thus, we recommend foremost the training to individuals from the above groups. However, representatives of other companies related to the services sector may find new, interesting knowledge in individual modules that will support their transition to the circular economy, as well as valuable inspiration.

The training material may be utilised either as an a) self-study, by individuals, e.g. the owner, manager or the staff responsible for particular areas of a company's operation (e.g. energy, marketing, supply management, etc.), or b) as individual workshops for a single company or jointly for a group of interested companies., or c) as a complete training program composed of several or all modules, for the same audience.

Note, however, to improve the efficiency of work and solutions created within the DT module, we recommend combining the DT workshop with an advisory service as well as joint participation in the training of the advisor and employees representing the given company(ies).

# HOW TO APPROACH THE TRAINING

**Sections of this report and films**

This training material is composed of two main parts, the theoretical background for each theme (Section I) and the workshop guide and content (Section II and III). If you are a trainer and will keep a workshop you are directed to use Section II for the module you wish to facilitate. In the Section II you will find a script to support each power point slide given in Section III. You may wish to read the theoretical background in Section I as well as a support.
To complement the written material and powerpoints we have created a set of films to serve as inspiration and introduction to each of the modules.

**Educational path & Module themes**

The following educational path is suggested to companies that wish to benefit from this training material:

**Step 0** – We advise you to start with performing the i-SAT test developed within the CIRTOINNO project (to be found at www.cirtoinno.eu). This tool was developed separately from this training but can be used to complement it. The test allows you to quickly and easily evaluate the current business activities of your company in relation to the circular economy and its principles. After completing this test, you will receive a short report indicating the "circularity level" of your company. The i-SAT tool considers both technological and non-technological solutions. The latter area includes organizational issues, education of staff, guests, changes in supply chain, and marketing activities. This will help you to prepare for the upcoming tasks which are part of the training material.

**Step 1** - Regardless of the level of the participant's knowledge, we encourage everyone to first familiarize themselves with Module 1 – "Starting the Journey to Circular Economy" before starting to work with any other module of this training. It will give you a platform for understanding any of the other modules.

If you wish to study Module 1 start with watching the film "Starting the Journey to Circular Economy" available as a supplement to this training here https://cirtoinno.eu/know-how/. After this study continue with the theoretical basis (Section 2.1) of Module 1. In case you use module 1 as part of a self-study also familiarize yourself with the content and description of the powerpoint slides (Appendix 1).

In Module 1 you will learn what circular economy is, why this concept is gaining importance in society, how it differs from the currently widespread linear economy model and how tourism companies may benefit from the transition to the CE. Moreover this module includes inspiration presented in some examples of tourism companies which already successfully have implemented circular solutions. The last part of the "Module 1" focuses on selected tools that allows you to deepen your knowledge of CE.

**Step 2** - If you have an idea in which direction you intend to lead changes in your company in order to implement the principles of the circular economy into your business practice, we suggest you to continue with following training modules:

- Module 2 – "Energy in a Circular Economy" – in case of technological issues
- Module 3.1 – "Business Model Innovation for Circular Economy" – for non-technological aspects

If the needs of your company have not yet been clarified or the scope of changes to be introduced is wide, we recommend that you start taking on the "Energy" module (Module 2) and then moving on to the "BMI" module (Module 3.1).

Module 2 includes an introduction to the energy issues in relation to the circular economy, information on how to observe, identify, plan, implement and check actions regarding among others: energy efficiency, energy supply and management systems, as well as sustainable transportation and travel. The content is completed with case studies from businesses in the tourism industry and indication of financing sources in relation to energy efficiency and renewable energy sources.

The BMI module (Module 3.1) is designed to equip you with practical skills and knowledge regarding the concept of innovation, how can it be used with relation to the circular economy, as well as how to

identify the benefits from introducing innovations in the tourism industry. Moreover, from the training material you will learn the concept of business models and its design. Finally, useful tools of development, evaluation, and validation of closed-circuit business models will be presented to you.

If you represent the SME who has a ready circular solution, and you only look for the possibility of using it as a marketing asset or you tend to improve the company's communication with customers, you can start directly with the "Marketing" module (number 4), see Step 4.

**Step 3** – This is the stage when the knowledge obtained in the previous steps should be translated into a tangible solution e.g. a new service or product, changes towards energy- and resources savings, or changes in the business model. Within the framework of the CIRTOINNO project, we have selected and recommend the design thinking (DT) method to work on creating your circular solutions. In Module 3.2 you will find the explanation what design thinking is, how to work with it, as well as useful supporting tools. This module can be used regardless of whether the designed solution is about technology or another area of activity.

In this training material the "Design Thinking" module has been planned and developed as a workshop, led by a professional trainer with at least a basic knowledge of the design thinking method. Therefore, independent work with this module for entrepreneurs just starting their adventure with design thinking can be demanding and often not bringing the expected effect. For this reason, we encourage SMEs to take advantage of design thinking trainings offered on the market or to request a dedicated training, organized for the company and based on the material provided in this training material.

**Step 4** - This part describes the rules of working with the PDCA model (See Section 1.4) and has been supplemented with tables for independent work. To facilitate your work with this module, we provided a pre-filled example based on a case study from a tourism SME. The module offers you specific guidelines on how to use marketing tools to promote circular solutions and to communicate pro-ecological topics to your guests and business partners. Finally, there is an overview of good practices applied by the Hilton Hotel and the Guldsmeden Hotel.
If you have a product or solution ready for the market, you can take this course as a stand-alone module to be studied separately. However, we strongly recommend to also read the material available in Module 1.

An example scheme of using the training program for energy solutions is presented in Figure 1. Here is also included a Step 0 including a Self Assessment (named i-SAT) that is additional to this training as well as a continuation step composed of Advisory Services that is also complementary to the training material and developed under the CIRTOINNO project (https://cirtoinno.eu/know-how/). These Advisory Services aim to support tourism companies on their way to change towards the circular economy. We also present a basic (general) model training path (Figure 2), an example scheme for non-technological solutions, focused on introducing a circular business model (Figure 3), for non-technological solutions, focused on designing a new circular solution / service (Figure 4), for an already existing ready-to market solution (Figure 5).

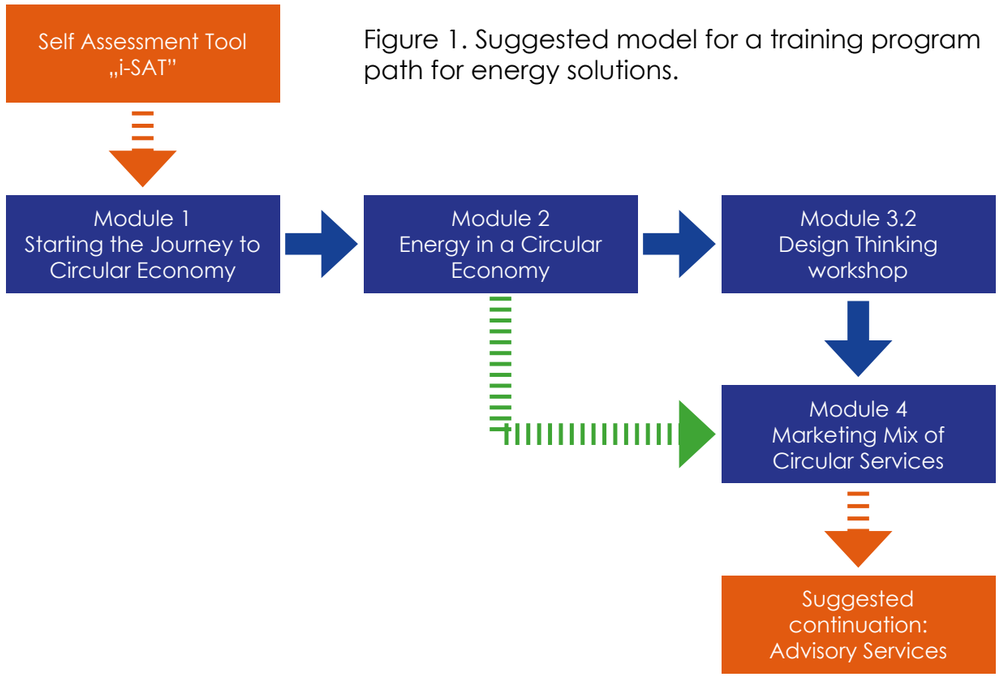



Figure 1. Suggested model for a training program path for energy solutions.

**Modules included in the training book**

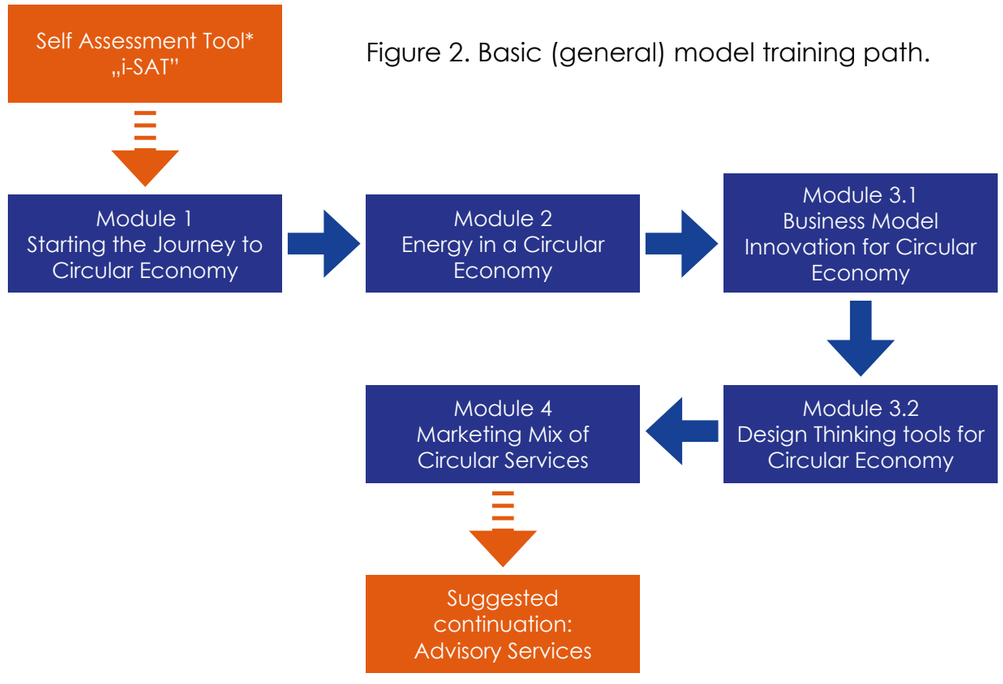



Figure 2. Basic (general) model training path.

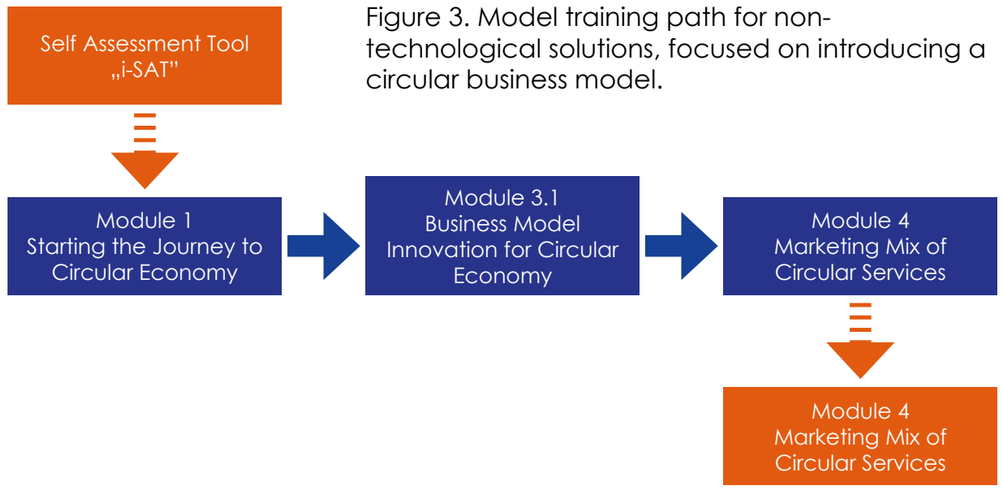



Figure 3. Model training path for non-technological solutions, focused on introducing a circular business model.

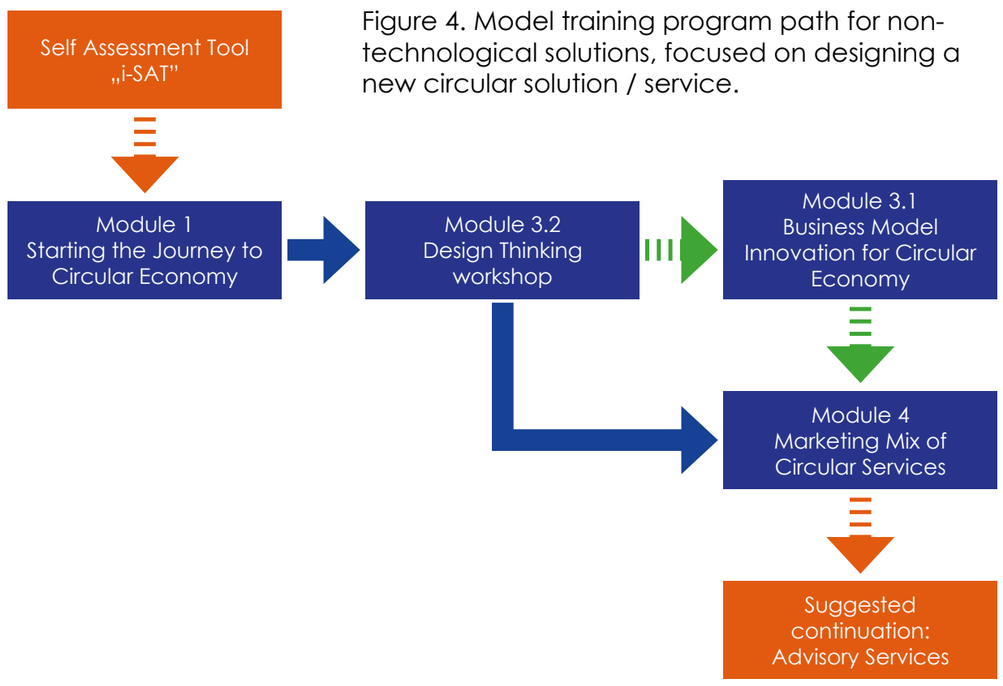
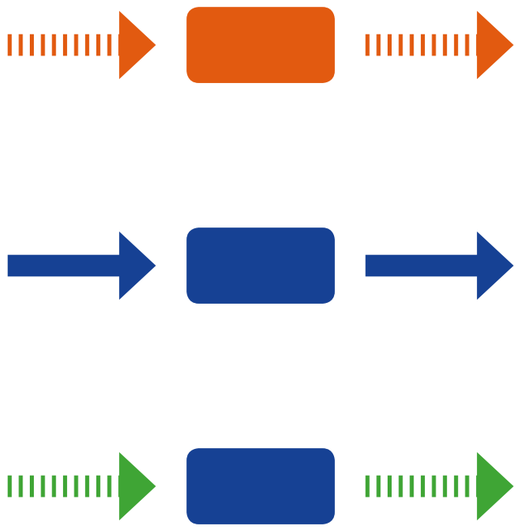



Figure 4. Model training program path for non-technological solutions, focused on designing a new circular solution / service.


Figure 5. Short model training program path for an already existing ready-to market solution.

**Schemes explanation:**



Optional steps for presented training path include Self Assessment (i-SAT - additional to this training), Advisory Services (complementary to this training) and are developed under the CIRTOINNO project

Mandatory step for presented training path

Alternative steps for presented training path

# PDCA MODEL

Plan – Do – Check – Act (PDCA) is a well-known methodology first proposed by an American statistician and physicist, and later developed into a learning and improvement cycle by William Deming becoming the popular PDCA model as we know today. Explained briefly, the PDCA cycle is a project planning tool and model for carrying out change and continuous improvement of people and processes. Just as a circle, PDCA has no end, and should be repeated again and again for continuous improvement.

This management method has been used in different disciplines and adapted to their needs and processes. For the purpose of this project in the service sector of tourism, the last step of the PDCA cycle has been changed from the originally used „act" to „revising" since our standpoint is that becoming circular is a continuous development process that needs regular checks and revisions of a company's processes. We also added a preliminary stage to the cycle called „observing" since we believe that before planning a change a thorough observation should be done on business processes to find out which one of them has the potential of becoming circular. This method can be enriched with an observation stage which can be added prior to the „planning" part. This means that an observation is necessary to assess the current situation prior to planning. Thus, the stepps of the PDCA model adapted to fit the purpose of this training materia lis as follows: Observing, Planning, Implementing, Checking and Revising.

Planning as the term implies is about preparing a plan to address observed issues or to make the improvements and changes. Planning is the step that usually takes largest amount of time in a PDCA cycle. Most of the times planners need to go back and re-plan for continuous improvements. All the time dedicated in planning is valuable and makes steps that come after it easier and faster.

Do or what is also called „Implementation" is a step to carry out actions that is suggested in the planning part. This step operationalizes the plan, allocates resources and choses people (actors) to begin running the plan for a change or improvement. Implementation can take few days or sometimes few months depending on the scale of the change or improvement. Each implementation act needs control which is the next step in a PDCA cycle. This step is called „checking and revising".

One of the differences between the PDCA approach in original form and the PDCA cycle that is suggested in the CIRTOINNO project is that „checking and revising" are considered as one step for the sake of simplicity. The „Checking" step demands the planner to control how the implementation has been done and if it is in-line with what has been suggested in the plan for a change or improvement. For the „Revising" step, there are two major tasks; reporting and education. Reporting keeps all the valuable information in place for future changes and improvements and education helps people working in the organization or company to be able to work on continuous development of different processes within a PDCA cycle.

As previously mentioned, the PDCA model is built on a continuous development approach. It means that the changes will not happen at once and also if the PDCA cycle stops there is a risk that the organization goes back to its previous state. Due to similarities between the PDCA cycle and circularity this approach has been chosen to work with circular economy and within the CIRTOINNO project. Further reasons are as follows:

- Project based nature of circular economy programs
- Iterative nature of circular economy goals
- Continuous development nature of circular economy plans
- Long-term approach in circular economy programs
- Quality control demand in circular economy projects
- Critical thinking and the need to educate workforce in circular economy projects
- Performance improvement demand in circular economy projects
- Complexity in circular economy projects

When elaborating the training modules of this report, we based the work on the PDCA model. This may seem redundant since it is very similar to the DT approach presented in Module 3.2. Both PDCA and DT are rooted in the same tradition but they do however differ in that one (PDCA) is aimed at continuous improvement while the other (DT) at continuous innovation. Thus, they should be considered as two different approaches that may complement each other. As we will see presented in Module 3.2, DT is much more than just a set of tools and canvases; it is about understanding human needs and answering them while creating circular products or services.

**PDCA model applied to the CIRTOINNO training**

The PDCA-model in the context of the CIRTOINNO training is structured as follows:

1. Observing
2. Planning
3. Implementing
4. Checking and Revising

The four steps are explained below:

**Observing:**
- Assess current situation
- Review all processes
- Measure current performance
- Identify the processes that need to be changed

**Planning:**
- Re-define goals
- Identify actors in the process
- Identify required resources
- Identify required actions and circulating processes to achieve the new goals

**Implementing:**
- Make selected processes circular
- Change linear processes to circular
- Establish return processes (cycle processes)
- Make a checklist for the actions taken towards CE and the actors involved
- Educate the involved actors on CE

**Checking and revising:**
- Self-audit and external audits
- Identify the processes that need to be changed or improved
- Review the checklist for the actions taken towards CE and the actors involved
- Educate the involved actors in that specific module

More details on the model are presented in the section "PDCA Tables" in the training material.

# CASE STUDY IN HOSPITALITY

For the purpose of this training material we applied a case study approach to provide real and successful business examples as an inspiration for SMEs. From a desk study on the existing material and information on circular economy it is evident that circular economy case examples mainly come from the manufacturing industry. However, since this training concerns the service sector of hospitality it is important that the case also needs to be chosen from this same sector.

In order to make the training material in different modules coherent and homogenous, it was decided to use examples from one single case that discusses circular economy in the service sector and that included all the topics of the modules of this training (including energy efficiency, Business Model Innovation, Design thinking, and Marketing). There were cases that are good from the perspective of one of these module themes but it was not possible to find a single case among SMEs in the service sector with circular economy implementation examples that was suitable for all modules. Moreover, information and details about circular economy in cases from SMEs were hard to find which made it unsuitable to use as for the purpose of this training which should be available in sufficient detail to be able to analyze for teaching and learning purposes. It could be argued that it would be better to choose a set of different cases from various SMEs rather than one single case. Although this option was possible, it was decided to choose one single case for all modules in order to unify the training materials and to make it serve as a red thread between them.

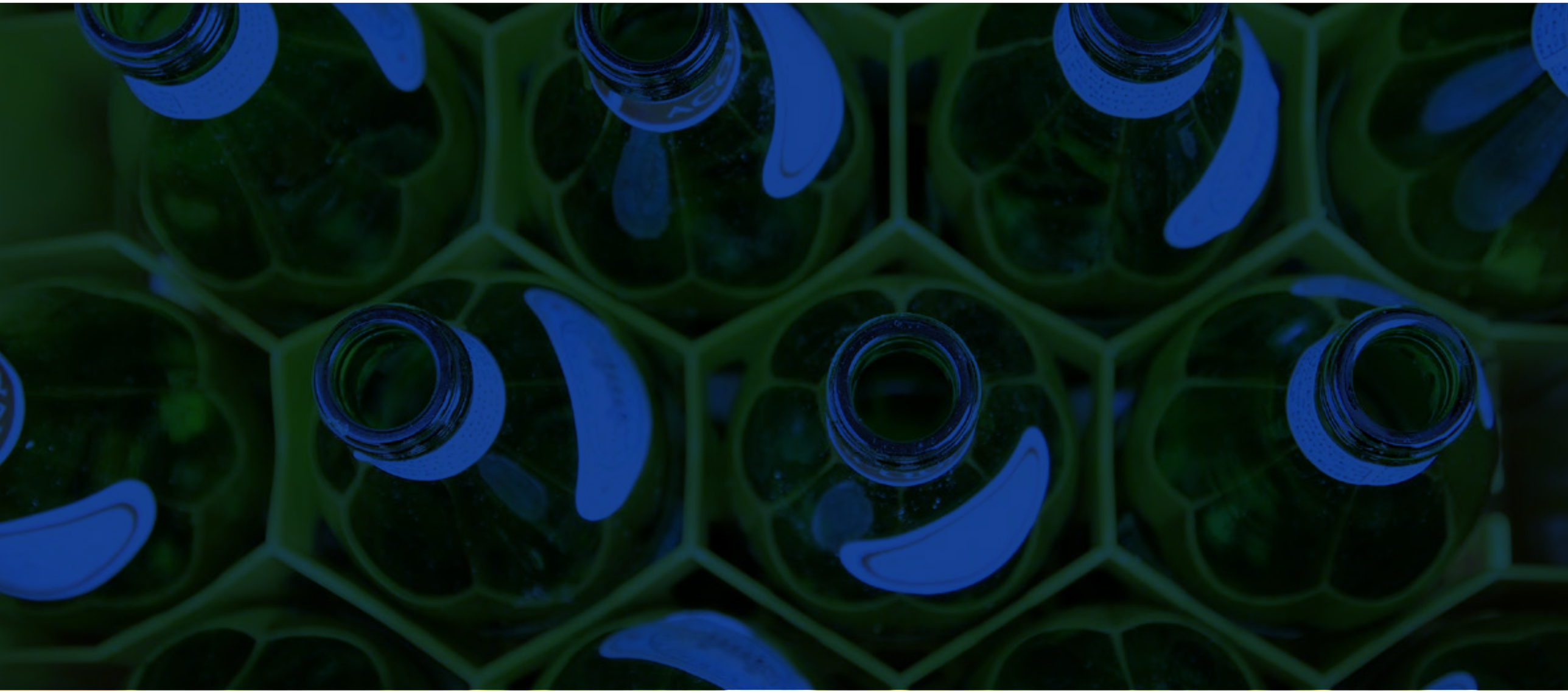
Thus, based on extensive research carried out by marketing experts of the CIRTOINNO project, the Hilton Hotels and Resorts was selected as a case example of „good practices" for all the training modules. The choice of Hilton hotels and resorts as a case study was approved by all the partners co-creating this training. Hilton is a well-established and large hotel chain with significant resources that may not be comparable with those of SMEs in the South Baltic region. However, this single case has information concerning all the module themes and substantial public information available online. Moreover their examples can serve as inspiration and SMEs can choose to adapt parts of them in to their businesses.

Starting the Journey to

# Circular Economy

LEAD PARTNER

PARTNERS



# INTRODUCTION TO THE CIRCULAR ECONOMY

**Basic concepts and definitions**
Circular economy (CE) is one of the fundamental part of policy of European Union. CE strategy indicates that all products, materials and raw materials should remain in the economy, as long as possible, and the generation of waste should be as much as possible minimized (COM no. 398, 2014, (COM no. 614, 2015)
The Commission has published three COM about CE:

- Towards a circular economy: A zero waste programme for Europe 2014 (COM no 398, 2014)
- Closing the loop - An EU action plan for the Circular Economy 2015 (COM no 614, 2015)
- Monitoring framework for the circular economy 2018 (COM no 29, 2018)

Circular economy definitions - European Commission:

- 2014: ‚CE systems keep the added value in products for as long as possible and eliminates waste' Source: Towards a circular economy: A zero waste programme for Europe (COM no 398, 2014);
- 2015: CE is economy 'where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste is minimised' Source: Closing the loop - An EU action plan for the Circular Economy (COM no 614, 2015)

CE is the strategy that:

- boost economic growth without increasing consumption of resources,
- deeply transforms production chains and consumption habits,
- re-designs industrial systems at the system level.

In an economy based on recycling, materials are reused. For example, waste glass is used to make new glass and waste paper is used to make new paper. To ensure that in the future there are enough raw materials for food, shelter, heating and other necessities, our economy must become circular. That means preventing waste by making products and materials more efficiently and reusing them. If new raw materials are needed, they must be obtained sustainably so that the natural and human environment is not damaged .

# OBJECTIVES

**Module I Introduction of CE**
Objectives: assumptions of the idea of CE, concept of CE, basic legal acts in CE, presenting good practices in the field of implementing CE solutions, presentation of models: ReSolve and the European CE Stakeholders Platform.

**Module II Circular economy in tourism – model and good practices**
Objectives: presentation of sustainable business approaches in tourism in economic, environmental and social aspects in order to effectively implement the CE assumptions in enterprises, mainly SMEs, examples of good practices in companies operating in the tourism industry.

**Module III Tools and instruments supporting implementation of CE**
Objectives: presentation of support tools and practices for assessment of CE, examples of classification and certification of CE in tourism, presentation of the EREK tool (European Resource Efficiency Knowledge Center) aimed at efficient use of raw materials in the area of water, waste, energy and materials management.

**Goal:** The aim of the workshop is to raise knowledge, shape attitudes and mobilizing SMEs from the tourism industry to implement the idea of CE


# THEME

# COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT ABOUT CE

**Towards a circular economy: A zero waste programme for Europe 2014 (COM no 398, 2014)**

In the first CE Communication of 2014, "Towards a circular economy: A zero waste programme for Europe "(COM No. 398, 2014) The European Commission (EC) emphasized that it was more effective the use of waste can bring significant economic benefits to countries EU member states, including Poland. Circular economy systems allow Maintain the added value of products for as long as possible and minimize waste.

CE systems keep the added value in products for as long as possible and eliminates waste. They keep resources within the economy when a product has reached the end of its life, so that they can be productively used again and again and hence create further value.

Transition to a more CE requires changes throughout value chains, from product design to new business and market models, from new ways of turning waste into a resource to new modes of consumer behavior. This implies full systemic change, and innovation not only in technologies, but also in organization, society, finance methods and policies. Even in a highly circular economy there will remain some element of linearity as virgin resources are required and residual waste is disposed of (COM no. 398, 2014):.

CE approaches 'design out' waste and typically involve innovation throughout the value chain, rather than relying solely on solutions at the end of life of a product. For example, they may include (COM no. 398, 2014):

- reducing the quantity of materials required to deliver a particular service (lightweighting);
- lengthening products' useful life (durability);
- reducing the use of energy and materials in production and use phases (efficiency);
- reducing the use of materials that are hazardous or difficult to recycle in products and production processes (substitution);
- creating markets for secondary raw materials (recyclates) materials (based on standards, public procurement, etc.);
- designing products that are easier to maintain, repair, upgrade, remanufacture or recycle (ecodesign);
- developing the necessary services for consumers in this regard (maintenance/repair services, etc.);
- incentivising and supporting waste reduction and high-quality separation by consumers;
- incentivising separation, collection systems that minimise the costs of recycling and reuse;
- facilitating the clustering of activities to prevent by-products from becoming wastes (industrial symbiosis); and
- encouraging wider and better consumer choice through renting, lending or sharing services as an alternative to owning products, while safeguarding consumer interests (in terms of costs, protection, information, contract terms, insurance aspects etc.).

# CLOSING THE LOOP - AN EU ACTION PLAN FOR THE CIRCULAR ECONOMY 2015 (COM NO 614, 2015)

In 2015, the European Commission adopted an ambitious package on the economy of closed circulation to stimulate the transition of Europe to the CE and thus increase global competitiveness, promote sustainable economic growth and create new jobs (COM no. 614, 2015).

The CE will boost the EU's competitiveness by protecting businesses against scarcity of resources and volatile prices, helping to create new business opportunities and innovative, more efficient ways of producing and consuming. It will create local jobs at all skills levels and opportunities for social integration and cohesion. At the same time, it will save energy and help avoid the irreversible damages caused by using up resources at a rate that exceeds the Earth's capacity to renew them in terms of climate and biodiversity, air, soil and water pollution. A recent report also points at the wider benefits of the circular economy , including in lowering current carbon dioxide emissions levels. Action on the CE therefore ties in closely with key EU priorities, including jobs and growth, the investment agenda, climate and energy, the social agenda and industrial innovation, and with global efforts on sustainable development (COM no. 614, 2015).

**Production**

A CE starts at the very beginning of a product's life. Both the design phase and production processes have an impact on sourcing, resource use and waste generation throughout a product's life.

**Product design**

Better design can make products more durable or easier to repair, upgrade or remanufacture. It can help recyclers to disassemble products in order to recover valuable materials and components. Overall, it can help to save precious resources. However, current market signals appear insufficient to make this happen, in particular because the interests of producers, users and recyclers are not aligned. It is therefore essential to provide incentives for improved product design, while preserving the single market and competition, and enabling innovation.

- The Commission will promote the reparability, upgradability, durability, and recyclability of products by developing product requirements relevant to the circular economy in its future work under the Ecodesign Directive, as appropriate and taking into account the specificities of different product groups. The Ecodesign working plan for 2015-2017 will elaborate on how this will be implemented. The Commission will shortly also propose Ecodesign requirements for electronic displays.
- The revised legislative proposals on waste creates economic incentives for better product design through provisions on extended producer responsibility.
- The Commission will examine options and actions for a more coherent policy framework of the different strands of work of its product policy in their contribution to the CE.

# PRODUCTION PROCESSES


**Even for products or materials designed in a smart way, inefficient use of resources in production processes can lead to lost business opportunities and significant waste generation.**

- The Commission will include guidance on best waste management and resource efficiency practices in industrial sectors in Best Available Techniques reference documents (BREFs) and will issue guidance and promote best practices on mining waste.
- The Commission is proposing (in the revised legislative proposals on waste) to clarify rules on by-products to facilitate industrial symbiosis and help create a level-playing field across the EU.

**Consumption**
The choices made by millions of consumers can support or hamper the circular economy. These choices are shaped by the information to which consumers have access, the range and prices of existing products, and the regulatory framework. This phase is also crucial for preventing and reducing the generation of household waste.

**The Commission will specifically consider proportionate requirements on durability and the availability of repair information and spare parts in its work on Ecodesign, as well as durability information in future Energy Labelling measures.**

- In the revised waste proposals, the Commission proposes new rules which will encourage reuse activities.
- The Commission will work towards better enforcement of the guarantees on tangible products, examine possible options for improvement, and tackle false green claims
- The Commission will prepare an independent testing programme under Horizon 2020 to help the identification of issues related to possible planned obsolescence. This work would involve relevant stakeholders as appropriate.
- The Commission will take action on Green Public Procurement (GPP), by emphasising circular economy aspects in new or revised criteria, supporting higher uptake of GPP, and leading by example in its own procurement and in EU funding.

# WASTE MANAGEMENT


Waste management plays a central role in the CE: it determines how the EU waste hierarchy is put into practice. The waste hierarchy establishes a priority order from prevention, preparation for reuse, recycling and energy recovery through to disposal, such as landfilling

This principle aims to encourage the options that deliver the best overall environmental outcome. The way we collect and manage our waste can lead either to high rates of recycling and to valuable materials finding their way back into the economy, or to an inefficient system where most recyclable waste ends in landfills or is incinerated, with potentially harmful environmental impacts and significant economic losses. To achieve high levels of material recovery, it is essential to send long-term signals to public authorities, businesses and investors, and to establish the right enabling conditions at EU level, including consistent enforcement of existing obligations.

**The Commission is adopting, together with this action plan, revised legislative proposals on waste comprising in particular:**

- long-term recycling targets for municipal waste and packaging waste, and to reduce landfill
- provisions to promote greater use of economic instruments
- general requirements for extended producer responsibility schemes
- simplification and harmonisation of definitions and calculation methods and will step up its work with Member States to improve waste management on the ground, including to avoid overcapacities in residual waste treatment.

The Commission will assist Member States and regions to ensure that Cohesion Policy investments in the waste sector contribute to supporting the objectives of the EU waste legislation and are guided by the EU waste hierarchy.

# MONITORING FRAMEWORK FOR THE CIRCULAR ECONOMY 2018 (COM NO 29, 2018)

The transition to a CE is a tremendous opportunity to transform our economy and make it more sustainable, contribute to climate goals and the preservation of the world's resources, create local jobs and generate competitive advantages for Europe in a world that is undergoing profound change.

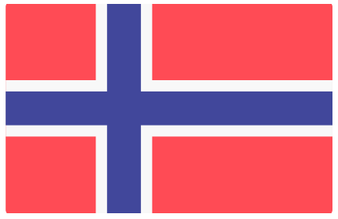
The monitoring framework is intended to measure the progress of economic activities with a closed loop in such a way as to take account of its various dimensions at all stages the life cycle of resources, products and services. There is no indicator that can be a single measurement for the CE. A number of existing indicators can help to measure performance in several areas that directly or indirectly contribute to the CE development. They can be grouped into 4 presented groups:

1. production and consumption;
2. waste management;
3. secondary raw materials;
4. competitiveness and innovation.

# THE EXAMPLES OF INTRODUCTION OF CE

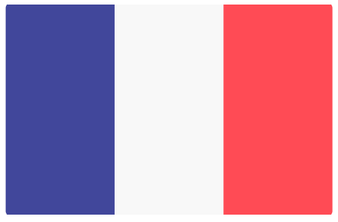
**The idea of CE is not the new concept. A lot of countries have already introduced the CE concept as for example national strategy, the main concept protection of the environment.**


The ideas of a circular economy were officially adopted by China in 2002.
China adopted the circular economy due to the environmental damage and resource depletion that was occurring from going through its industrialization processs.



On the 21st of June 2017, the Norwegian government presented a White Paper on waste policies in a circular economy with an emphasis on increasing reuse and recycling to the Norwegian Parliament.

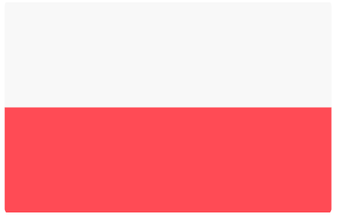
"Leading the cycle – Finnish road map to a circular economy 2016-2025" (2017)



Circular Economy roadmap of France: 50 measures for a 100% circular economy (2018)

National Programme Circular Economy
Objectives:

- Circular economy in NL by 2050
- 50% reduction in use of raw materials by 2030
- Reduction
- Recycled
- Blobased
- Sustainable sourced



10.09.2019 – acceptance of the roadmap of transformation towards a circular economy)

# IMPLEMENTATION OF CE – ReSOLVE MODEL

**Developed by Ellen MacArthur Foundation, the framework takes the core principles of circularity and applies them to six actions:**

- Regenerate
- Share
- Optimise
- Loop
- Virtualise
- Exchange

The ReSOLVE framework offers companies a tool for generating circular strategies and growth initiatives. Many global leaders have built their success on innovation in just one of these areas. Most industries already have profitable opportunities in each area .


Source: Report Towards the circular economy, Ellen MacArthur Foundation; The ReSOLVE framework for a Circular Economy, https://makewealthhistory.org/2016/09/12/the-resolve-framework-for-a-circular-economy

**The ReSolve model includes 6 phases such as:**

- **Regenerate:** a broad set of actions that maintain and enhance the earth's biocapacity. That includes the transition from finite fossil fuels to renewable energy. It includes reclaiming land and restoring or protecting ecosystems. Returning biological resources to nature also falls into this category, through composting for example.
- **Share:** the 'sharing economy' is a concept that overlaps with the circular economy. Sharing gets the full use out of goods and eliminates waste and duplication. The average European car is only driving for 5% of the time, for example, spending the vast majority of the time parked up and out of use. Car-sharing schemes, tool hire, or libraries all help get more value out of products by sharing them. The second-hand market and repair are also filed under 'share', as they similarly reduce the 'loop speed' of goods passing through the economy, ensuring that they're only sent back for recycling or reprocessing when they really need it.
- **Optimise:** this is about removing waste energy and materials in the manufacture of goods, and in the use of them as well. It also entails using technology to maximise resource use. For example, fertiliser use is destabilising the nitrogen cycle, but 70% of the fertiliser that is spread on crops is washed away or goes into the soil, and never ends up being used by the plant. Precision farming techniques can deliver exact quantities of fertiliser directly to the roots at just the point that plants look for it, ensuring that as little as possible is wasted.
- **Loop:** where organic materials are composted in a circular economy, inorganic (or 'technical') materials are reused. They may be recycled, or even better, goods or parts can be remanufactured. Either way, resources are processed, looped around and put back into the economy, rather than lost to it through landfill.
- **Virtualise:** if you have an e-reader or a Netflix subscription, you're taking part in the virtualisation of the economy. Think how many different gadgets have been displaced by the apps on your phone – alarm clocks, maps, a daily newspaper. McKinsey also include driverless cars here and I'm not sure why, as the car itself is hardly dematerialised, even if the driver is.
- **Exchange:** the final category describes the processes of swapping in new technologies, upgrading or replacing older ways of doing things. Electric motors will replace internal combustion engines, for example. We may exchange ways of doing things too – perhaps swapping out private motoring, electric or otherwise, in favour of public transport and autonomous car-sharing.

# EUROPEAN CIRCULAR ECONOMY STAKEHOLDER PLATFORM

The European Circular Economy Stakeholder Platform - https://circulareconomy.europa.eu/platform/en is a "network of networks" going beyond sectorial activities and highlighting cross-sector opportunities and challenges. The Platform is a hub gathering knowledge on circular economy and a place for dialogue among stakeholders

**It is structured as follows:**

Pillar I: Policy dialogue gathering stakeholders' input and views.

Pillar II: A Coordination Group that brings together circular economy-related multistakeholders networks/platforms; groupings/organisations of businesses, of trade unions and from the civil society; networks of national, regional and local public authorities/bodies and organisations from the knowledge and research communities, think-tanks, universities.

Pillar III: Website as a virtual venue for dissemination of circular economy-related content such as national strategies and good practices. The website is also feature a dynamic database with contacts, published studies and events relevant to CE.

The Commission and the EESC are calling for applications for the selection of existing networks (or similar grouping organisations) as members of the Coordination Group of the European Circular Economy Stakeholder Platform. Now on the Platform there is only 1 case about tourism in Thailand.


# INDUSTRIAL SYMBIOSIS

Industrial symbiosis means cooperation in order to make better use of raw materials and rationally manage waste to bring direct economic benefits, as well as promote environmental protection. It should be emphasized that this is a voluntary cooperation of various organizations (enterprises) focused on a certain area, whose main purpose is better use of raw materials and better management of waste.

Based on Closing the loop - An EU action plan for the Circular Economy 2015 (COM no 614, 2015) industrial symbiosis means that waste or by-products from one industry sector become a raw material for another.

# CIRCULAR ECONOMY IN TOURISM - MODEL AND CASE STUDIES

**Circular Economy Tools and Practices**
(http://ec.europa.eu/environment/green-growth/tools-instruments/index_en.htm)



**Level(s) - Building sustainable performance**
Level(s) is a voluntary reporting framework to improve the sustainability of buildings. Using existing standards, Level(s) provides an EU-wide approach to assessing environmental performance in the built environment. It encourages life cycle thinking for the whole building by offering a step by step approach to life cycle assessment.

**ETV - EU Environmental Technology Verification**
ETV is a new tool that helps innovative environmental technologies reach the market. This circular economy tool provides third-party verification of the performance of technologies, building trust among potential customers whilst reducing technological risk.

**PEF-OEF - Product Environmental Footprint and Organisation Environmental Footprint**
Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) are comprehensive tools that measure and inform customers about the environmental impact of products and organisations. Their approach of assessing life-cycles reflects the essence of the circular economy.

**EU Ecolabel**
EU Ecolabel is a voluntary label that helps to identify products and services that have reduced their environmental impact throughout their entire life cycle. It allows consumers to make informed choices and rewards producers who practice making efforts to create sustainable products.

**EMAS - Eco-Management and Audit Scheme**
EMAS is the official European environmental management instrument that helps organisations improve their environmental performance and demonstrate their efforts to implement "reduce, reuse and recycle" practices.

**GPP - Green Public Procurement**

GPP is a powerful circular economy instrument that encourages demand for green products and services by promoting green markets and setting strong examples for public bodies to follow.

Circular economy that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles [SOURCE: ISO 20400:2017, 3.1]

# BENCHMARKS FOR CE TOURISM

http://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf

- European hotels consume, on average, 72-519 kWh of energy per m2, depending on the location and services offered,
- Cconsumption of water, depending on the hotel standard - guests typically use between 90 and 150 liters of water per night
- A typical hotel guest produces 1 kg of waste per day. Resort hotels were shown to create the highest amount of waste, approximately 6 kg/guest night!

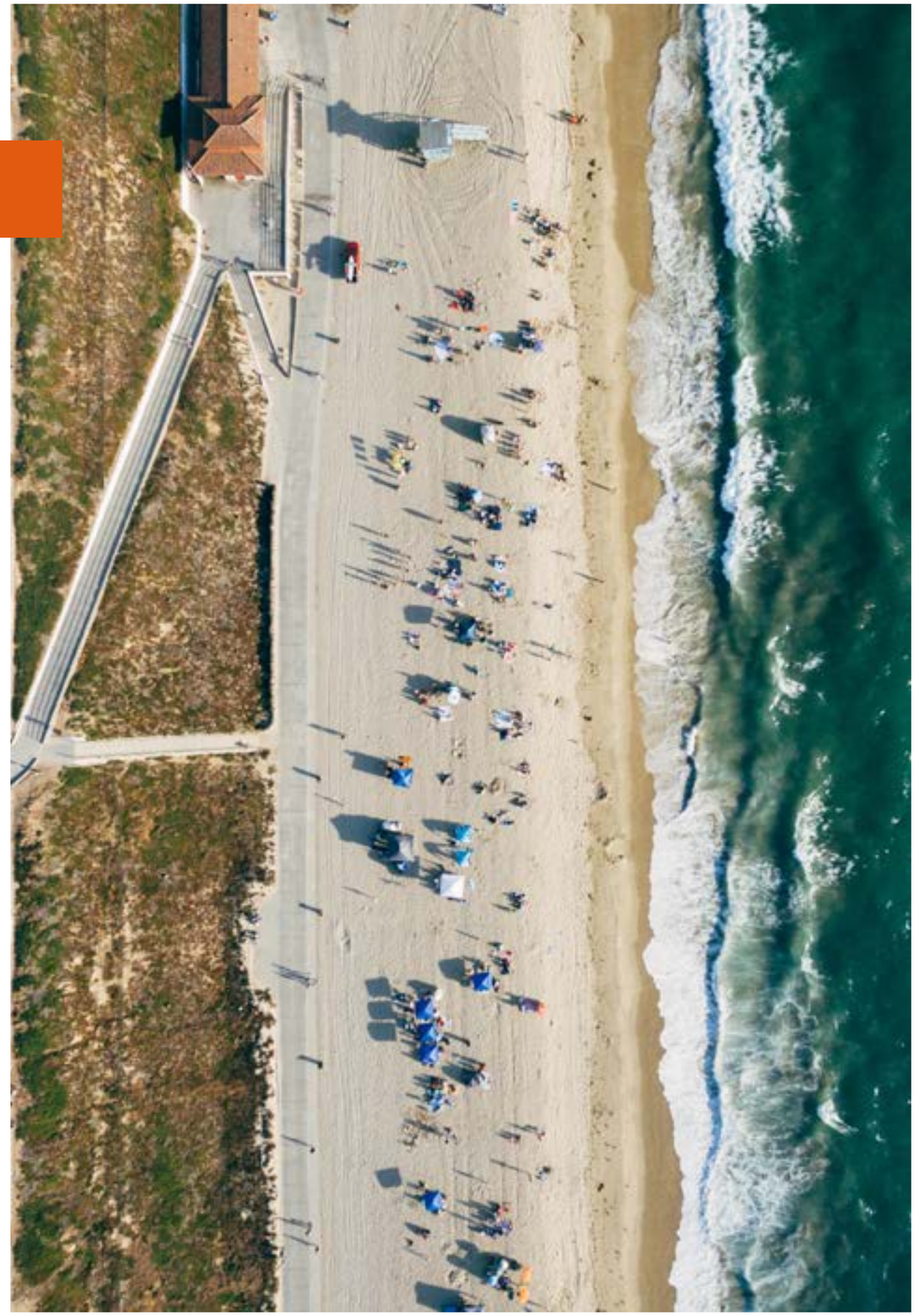
Benchmarks of excellence:

- Installed lighting capacity <10 W per m2 or lighting electricity consumption <25 kWh/m2yr, total electricity consumption ≤80 kWh/m2yr (heated and cooled floor area).
- total water consumption of ≤94 litres per guest-night on fully serviced four-and five-star campsites, and water consumption of ≤58 litres per guest-night on all other campsites
- total waste generation (sorted plus unsorted) of ≤0.6 kg per guest-night, and residual waste sent for disposal of ≤0.2 kg per guest-night

# TAKE A GREEN STEP

http://ec.europa.eu/environment/emas/takeagreenstep/bemp.html

- This website is a goldmine of information on how to save resources and attract more clients. All big changes start with small steps, and we invite you to take your first green step with us.
- Supply chain management - All tourism organisations depend on external suppliers to provide materials and services. The environmental impacts arising from the production and delivery of these materials and services can be substantial compared with environmental impacts directly arising from activities occurring within, or directly managed by, tourism organisations .



# EUROPEAN RESOURCE EFFICIENCY KNOWLEDGE CENTRE

**EREK is an initiative of the European Commission and it is implemented by a consortium of organisations including Technopolis Group, VDI Zentrum Ressourceneffizienz (DE), WRAP (UK), Motiva (FI), Enviros (CZ), WAAT and Arctik (BE).**

**EREK - your reference point on business competitiveness through resource efficiency**

The European Resource Efficiency Knowledge Centre (EREK for short) is here to help European companies, especially SMEs, save energy, material and water costs. We provide tools, information and business opportunities demonstrating new and better ways to be resource efficient and benefit from circular economy business models which turn waste into assets.

EREK also supports national, regional and local organisations across Europe that work with SMEs to improve their environmental performance, helping them to become more resource efficient.

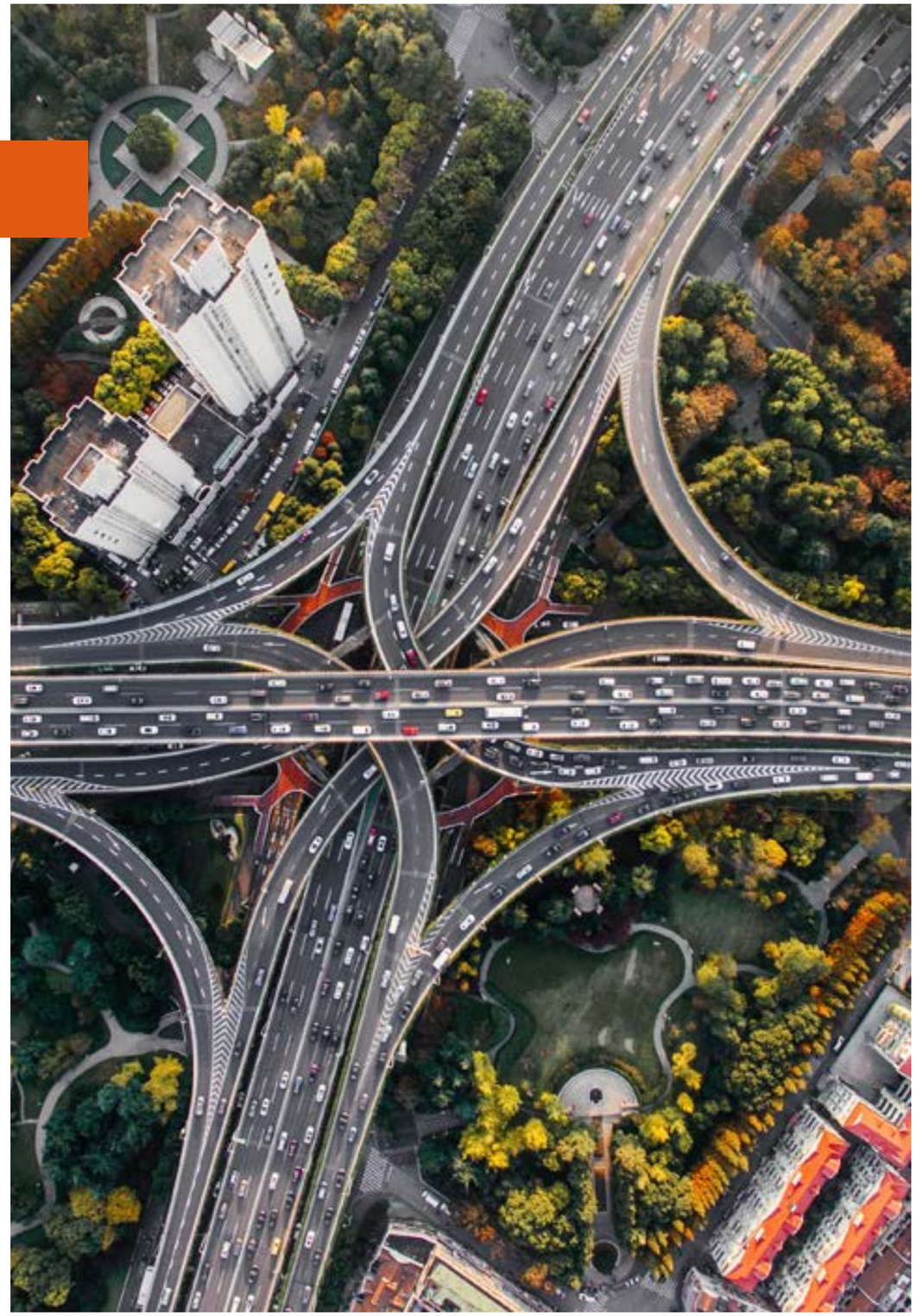
**SMEs can get the following benefits thanks to EREK's tools and services:**

- Access to knowledge on the best available technologies and business models
- Better management of energy, water and material costs
- Compliance checks for upcoming regulations
- Become less dependent on suppliers
- Demonstrate return on investment when adopting resource efficient measures
- Information on funding sources and technology providers
- Help building a green image which helps target new customer markets

**EREK offers the following to SME intermediaries:**

- Tools and instruments for businesses to assess their savings potential
- Access to top international knowledge, technical expertise and practices on resource efficiency
- Capacity-building workshops and networking events
- Online training opportunities to learn from resource efficiency experts
- Overview of relevant support programmes available on European, national and regional levels
- Updates on professional events within the community

EREK 2019,
www.resourceefficient.eu/en/about



## ISO STANDARDS

ISO standards help organizations reduce the negative impacts of tourism accommodation on the natural environment.

- **ISO 21401**, Tourism and related services – Sustainability management system for accommodation establishments – Requirements
- **ISO 20611**, Adventure tourism – Good practices for sustainability – Requirements and recommendations

**ISO 21416**, Recreational diving services – Requirements and guidance on sustainable practices in recreational diving

- **ISO/TC 228**, Tourism and related services. One example is technical specification
- **ISO/TS 13811**, Tourism and related services – Guidelines on developing environmental specifications for accommodation establishments,

## THE GLOBAL SUSTAINABLE ENTERPRISE SYSTEM *GSES*®

is an international standard for sustainable enterprises. Circular, sustainable and socially responsible entrepreneurship measured according to international standards such as ISO 20400, ISO 26000, ISO 14064 and BS 8001 – transparent supply chain in all areas of sustainable business (https://certifications.controlunion.com/en/certification-programs/certification-programs/gses-circular-economy)

## THE CRADLE TO CRADLE CERTIFIED™ PRODUCT STANDARD

guides designers and manufacturers through a continual improvement process that looks at a product through five quality categories — material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness. A product receives an achievement level in each category — Basic, Bronze, Silver, Gold, or Platinum (https://www.c2ccertified.org/get-certified/product-certification)

## EMAS

EMAS 5 key benefits for tourism operators – value chain - direct and indirect aspects

- **Be attractive:** Sustain the quality of your destination's environmental attractions. More than 1/3 of travellers favour environmentally-friendly tourism and are willing to pay up to 40% more for this experience.
- **Be profitable:** Save money by using less resources, electricity, heating, water, etc.
- **Be credible:** Use the most robust environmental management instrument worldwide
- **Be strategic:** You can only improve what you can measure! EMAS gives you a set of core indicators to systematically track your environmental performance
- **Be responsible:** Improve your indirect environmental impacts. Tourism businesses interact with many actors outside their own organisation, such as suppliers, subcontractors and of course guests. Their behavior is part of your environmental footprint! EMAS helps you select and positively influence your partners according to environmental criteria (http://ec.europa.eu/environment/emas/pdf/factsheets/EMASFactsheet_Tourism.pdf)

# THE GLOBAL SUSTAINABLE TOURISM COUNCIL

**The Global Sustainable Tourism Council**
https://www.gstcouncil.org/gstc-criteria/gstc-industry-criteria-for-tour-operators/

The organisation is a UN-endorsed independent organization playing a critical role as the leading global authority in providing guidance for the development and management of sustainability practices in travel and tourism.

**Global Sustainable Tourism Council Criteria for Hotels and Tour Operators**

SECTION A: Demonstrate effective sustainable management
A1 Sustainability management system
A2 Legal compliance
A3 Reporting and communication
A4 Staff engagement
A5 Customer experience
A6 Accurate promotion
A7 Buildings and infrastructure
A7.1 Compliance
A7.2 Impact and integrity
A7.3 Sustainable practices and materials
A7.4 Access for all
A8 Land water and property rights
A9 Information and interpretation
A10 Destination engagement

SECTION B: Maximize social and economic benefits to the local community and minimize negative impacts
B1 Community support
B2 Local employment
B3 Local purchasing
B4 Local entrepreneurs
B5 Exploitation and harassment
B6 Equal opportunity
B7 Decent work
B8 Community services
B9 Local livelihoods

SECTION C: Maximize benefits to cultural heritage and minimize negative impacts
C1 Cultural interactions
C2 Protecting cultural heritage
C3 Presenting culture and heritage
C4 Artefacts

Section D: Maximize benefits to the environment and minimize negative impacts
D1 Conserving resources
D1.1 Environmentally preferable purchasing
D1.2 Efficient purchasing
D1.3 Energy conservation
D1.4 Water conservation
D2 Reducing pollution
D2.1 Greenhouse gas emissions
D2.2 Transport
D2.3 Wastewater
D2.4 Solid waste
D2.5 Harmful substances
D2.6 Minimize pollution
D3 Conserving biodiversity, ecosystems and landscapes
D3.1 Biodiversity conservation
D3.2 Invasive species
D3.3 Visits to natural sites
D3.4 Wildlife interactions
D3.5 Animal welfare
D3.6 Wildlife harvesting and trade

# EXERCISES

**Exercise 1.**
The ReSOLVE model gives entrepreneurs and governments tools to build strategies and initiatives compatible with the idea of CE. These activities allow to increase the efficiency of resource use physically, extend their lifespan, and move away from the use of non-renewable resources renewable resources. Please indicate as many examples of good practice (z special focus on the tourism industry) in each of the six model activities Resolve.

| Action | Examples |
|---|---|
| Regenerate | |
| Share | |
| Optimise | |
| Loop | |
| Virtualise | |
| Exchange | |

Identification of industrial symbiosis based on publication A1.3 Good practice guide and benchmarking guidelines on ecosystems of byproduct and energy exchanges (https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1502280065.pdf)

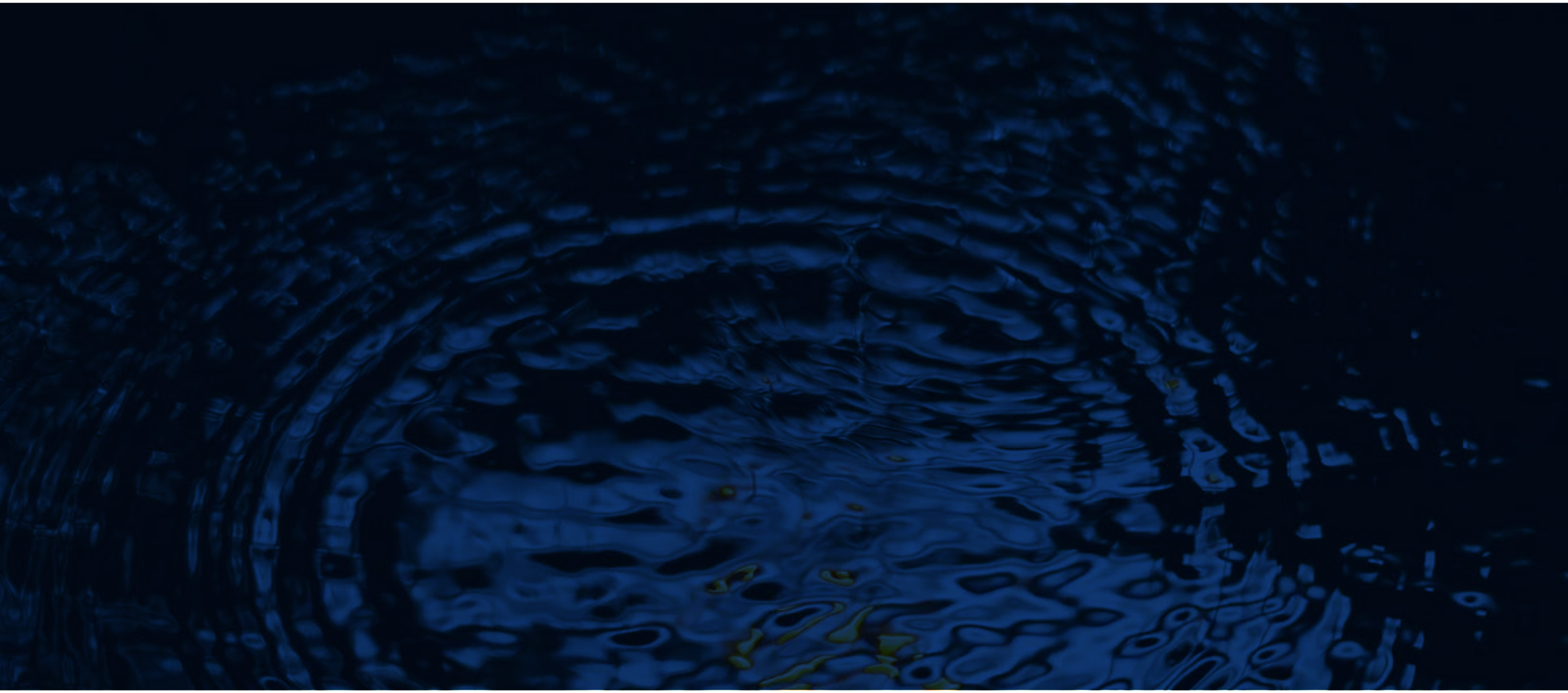
**Exercise 2.**
Identify the implementation of based on EREK tool (www.resourceefficient.eu/).

Energy in a

# Circular Economy

LEAD PARTNER

PARTNERS



# INTRODUCTION

Saved money, increased competitiveness, satisfied customers and reduced climate impact - these are just some of the benefits of energy-efficienting your business and investing in renewable energy.

The number of conscious green consumers increases. They are attracted to sustainable marketing and are looking for companies that have undertaken to reduce their environmental impact and really do it too. One way to do that is to work with efficient resource management, regardless of raw materials, finished products or energy use. Energy efficiency and the use of renewable energy sources are two parts that are important in your work with circular economics.

With the help of this education, we hope to help you get started or inspire you for new measures for smart energy use. We want you to set and achieve goals about reduced energy costs and the share of renewable energy in your business. Hopefully, you will also be inspired to work continuously with energy issues to achieve even better results.

# OBJECTIVES

**Objectives – What we want to teach/take away in this module?**

**Objectives and expected results**

- Provide a perspective of the meaning of energy use in relation to circular economy
- Introduce modern energy concepts, such as, Renewable energy, Energy efficiency, Prosumer, Energy cluster, Energy Management System etc.
- Equip you as a business owner/staff with capacity to:
  - Evaluate the options for sourcing clean energy
  - Identify possibilities to produce your own renewable energy
  - Identify relevant business areas that use energy
  - Develop a plan about how to improve the energy consumption
  - Monitor the results of different measures
- Inspire you with different examples of possibilities in turning toward renewable sources

As a workshop participant, you should have received good support to begin identifying actions within your company. The purpose is for you to start sketching an action plan for energy and transport actions. We can help you with advice to further develop the action plan.

# THEME.
## CIRCULAR ECONOMY AND ENERGY

# A DEFINITION

Circular economy takes in consideration the type and sources of material, paying close attention to material and organic flows. It aims to make products that are durable and that can be reused, refurbished and recycled. It achieves this aim by the intentional design of a service or product to ensure they are sustainable.
In relation to energy, renewables are the main source of energy in the circular economy. In addition, reducing consumption, efficient use, as well as, local production are main elements in a circular economy.
"Circular energy" is the use of renewable sources in continuous effort towards energy efficiency in relation to technology (production, distribution and efficiency) and user behavior". In terms of behavior, it is relevant to involve both staff and guests.
A business can work with its energy use in four fronts

- Sourcing renewable energy
- Producing renewable energy
- Working on Energy efficiency (technical and behavior change)
- Considering the energy use within other business innovation

Sourcing is simply buying energy that are made from renewable sources. Today, its availability is dependent on the energy offer in a given region, i.e., it is dependent on the possibility of buying renewable energy from energy sources providers.

Producing energy is a way that allow business to save resources by having their own energy either by having their own producing system or by participating in cooperatives.

Energy efficiency is the work to improve the use, as well as the quality of technology. It could be as simple as turning of the lights when they are not needed and making sure that heaters and pumps are functioning well. It could be as big as changing the insulation material of the house, or double gazing the windows.

Many new technologies and offers are going to consume energy, whether they are electric cars, daily technology or cleaning robots. Making sure that the energy used in those technologies comes from renewable sources is a key aspect of the circularity of a business.

# ENERGY KEYWORDS

**Here are some keywords / concepts about energy that may be helpful to have knowledge about when you read more about energy issues or attend the workshop.**

## SUSTAINABLE ENERGY

Sustainable energy can be looked from the perspective of consumption/production or for its impact on the environment and society. Sustainable energy is a form of energy that meet our today's demand of energy without putting them in danger of getting expired or depleted and can be used over and over again. Sustainable energy should be widely encouraged as it do not cause any harm to the environment and is available widely free of cost. All renewable energy sources like solar, wind, geothermal, hydropower and ocean energy are sustainable as they are stable and available in plenty.
Technologies promote sustainable energy including renewable energy sources, such as hydroelectricity, solar energy, wind energy, wave power, geothermal energy, bioenergy, tidal power and also technologies designed to improve energy efficiency. Renewable energy sources do not contribute to increased climate impact.

## PROSUMER

Alt 1. A prosumer is a consumer of electricity who also produces electricity and can sell it back to the grid. Today the own production of electricity is often made through a rooftop solar photovoltaic (PV) system.

Alt 2. A prosumer is someone who both produces and consumes energy – a shift made possible due to the rise of new connected technologies and the steady increase of more renewable power like solar and wind onto our electric grid.

## E-COOPERATIVES (energy networks or energy clusters)

Today, it becomes more common for energy consumers to merge and produce their own energy and sell energy to the network. It can be about building a common solar cell plant where members have shares. It can also be companies that merge and use waste heat from a plant or produce energy together. These initiatives can also be called energy networks or energy clusters.

## ENERGY EFFICIENCY

Alt 1. Energy efficiency is a measure of how efficiently an appliance, building, organization or country uses energy. For example, using the proper insulation material at the necessary locations helps a building use less energy for heating and cooling while maintaining a comfortable temperature. Similarly, using LED lights and natural sunlight helps to reduce the amount of energy required to attain the same level of illumination that could be traditionally received by incandescent light bulbs.

Alt 2. Energy efficiency is defined as the use of energy in an optimum manner to achieve the same service that could have been achieved using a common less efficient manner. Energy efficiency is the practice of reducing the energy requirements while achieving the required energy output.

Energy efficiency is key to ensuring a safe, reliable, affordable and sustainable energy system for the future. It is the one energy resource that every property owner possesses in abundance and is the quickest and least costly way of addressing energy security, environmental and economic challenges.

## ENERGY RESILENCE

Resilience is the capacity to go through and surpass adversities. In relation to energy that implies having multiple sources of energy (solar, wind etc) as well as multiple ways of getting it (as opposed to just one factory or a grid that is designed in line.)

## ENERGY STORAGE

Energy storage is the capacity to reserve energy for a future use. Classical examples are chargeable batteries, water tanks heated from solar energy etc. Now there are also possibilities to store electricity for longer periods in the form of hydrogen. With the help of fuel cells, the hydrogen can then be converted to electricity again. Or you can use the hydrogen as fuel for vehicles.

Energy storage can enable the production of energy to be more independent of consumption. This is desirable for heating and electricity consumption throughout the day and throughout the year. During the summer, solar radiation and heat production is high, while the need for building heating and electricity for lighting is low, while the opposite applies during the winter. Interest for individuals to be able to store energy expect increase. Not least, bearing in mind that storage in batteries makes it possible to store electricity from solar cells. In order to achieve a high level of self-sufficiency, energy storage is needed, given the imbalance between energy consumption and energy production from solar cells. For those who have electric cars, there are also opportunities to temporarily store electricity in the car batteries.

# AN OVERVIEW OF ENERGY USE IN TOURIST FACILITIES

Restaurants and hotels need a lot of energy because there are many energy-intensive installations on a small surface. Restaurants use more than twice as much energy as hotels, calculated per square meter of local area. It is electricity consumption in cooking that accounts for the biggest difference in energy use between restaurants and hotels. However, many hotels have their own restaurant.

The energy accounts for a significant part of the operating costs of hotels and tourist facilities. The Swedish Energy Agency conducted a study of different Swedish hotels. The hotels used an average of 250 kWh of energy per square meter and year. Just over half, 132 kWh per square meter and year, went to heating. Of the annual energy consumption, about 70% is used for heating of premises and hot water, which corresponds to 40% of the cost of a hotel that is open all year round. Lighting accounts for 8% of energy consumption and 21% of energy costs.

In a restaurant, the kitchen equipment uses the largest amount of energy 35% followed by 28% for heating and cooling systems, 18% dishwashers, 13% lighting and 6% cooling. Take a walk in the business and note when everything turns on, how much starts, even though it may not be used until several hours later, and how much lighting and equipment that are on at night.

# REDUCE ENERGY DEMAND AND MAKE ECONOMIC AND ENVIRONMENTAL BENEFITS


**Energy efficiency is always profitable from a business-related perspective. Efficient energy use helps to increase profits by reducing energy costs. All energy we use also has an impact on the environment. It is only the unused energy that does not give an environmental impact.**

**Work for smart energy use in four steps**

## I. Observe and get key figures

Understand where the energy is used. Knowing what you pay for the energy (electricity, heat, cooling) and how you use it are important components for managing the operation of a good energy management system.

## II. Plan around Key topics

**Energy Efficiency - Reduce your energy demand and improve your systems**

Begin at the right end and reduce the need for purchased energy. Every saved kilowatt hour is a profit for both wallet and environment. Explain how it affects the environment

**Increase the share of renewable energy by buying or producing it**

When you're energy-efficient, it's time to review what energy sources you use. Install systems that can use renewable energy to produce heat, cooling and electricity. Switching to another system becomes more cost effective because you can use a smaller boiler or heat pump or a lower subscribed district heating effect. See also what opportunities you have to produce your own electricity or hot water using solar energy.

**Transport and Use the remaining fossil energy efficiently.**

It is not always easy to get rid of all fossil fuels at once. Choose low cost fuel vehicles and low emissions and train staff driving a lot of driving in Eco Driving. Encourage guests to choose sustainable transports, which can increase their experiences during the visit.

**Engagement**

Engage the staff, explain how you want to work with energy issues and ask them to come up with suggestions on how to save energy. Engage your guests by informing them of your sustainable energy policy and asking them to help save energy. It not only leads to reduced energy consumption, but also provides a better experience of comfort and service.

**Energy Management System**

Consider whether you want to visualize your energy saving with ecolabelling and / or environmental management systems.

## III. Implement

Organize you actions and progress follow up. Contact key partners and move on.

## IV. Check

Before we dive in in such steps, we would like to introduce the concept of a guiding star, and some reflection questions for preparing your mind for choosing a viable solution for your business.

# THE GUIDING STARS TOWARDS CIRCULAR ECONOMY

We used to look for the stars as guidance. In circular economy having guiding stars means selecting some guidelines or directives that can help business to look at their activities with new eyes. Some example of guiding stars are: "Our companies is carbon neutral", "We are zero waste", or "We use sustainable products".

It is much easier for companies to find or develop new solution if they have directions to where they should be moving. There are many action one can take to be sustainable and develop a more circular approach. If a company chooses a "Zero waste" as a guiding star, then looking at supply and production efficiency, as well as looking at consumer left overs gains a whole new perspective. Waste is not just an externality to be managed, but it becomes something to be designed out of the equation or considered into the equation. Ultimately, such change of perspective allows the development of new business partnerships and revenue streams.

Example, the Restaurant Silo in Brighton has Zero Waste as their business model and guiding star. They have shown that it is possible to drive a sustainable food movement, both financially and ethically. Read more about what they have done at their website http://www.silobrighton.com/story/

Moreover, having a guiding star helps to bring together different initiatives that are effective however that would be lost or meaningless without the reference provided by the guiding star. For example, insulating a roof is an action business can make in order to improve energy efficiency. It has a great benefit saving energy resources and money. However, such action is not something to be marketed without a context, it simply hard to make sense or a point out of it. However, if the business has a guiding start like "Using resources as best as possible" or "Getting CO2 neutral", then such action can be place in a context. A business can advertise how insulating the roof saves resources thus reducing waste of energy, reduces their CO2 emissions or both!

**Reflection questions for developing a guiding star**

- Are you committed already to any guiding star?
- What kind of guiding star could be added to the heart of your business?

**Examples of slogan**

A restaurant could use from field to field. Zero waste, "Our company is carbon neutral", "We are zero waste", or "We use sustainable products"

# QUICK START ON ENERGY AND CIRCULAR ECONOMY

Some of the question below can help you to have a quick overview of your current and future development related to energy and circular economy. Perhaps some of the things you already do, others can be more difficult, and perhaps you can find some inspiration focus your next steps:

**Resources use:**

- What kind of Energy do you source?
  - Can you buy energy that is renewable?
  - Can you produce energy yourself?
  - On your future purchases/leases can get products that are energy efficient?
- Which aspects of your business are the most energy intensive?

**Processes:**

- Which process can you change in order to save energy or increase energy efficiency?
  - Support behaviour change among staff and clients?
  - Buy as local as possible?
  - Work with eco-driving?
    - Structural additions in building, e.g:
    - Install solar panels
    - Improve insulation
    - Etc
- Would help to install an energy management system?

**Rest products and left overs:**

- How can you recover energy that is not used?
  - Recover heat from water and from ventilation?
  - Connect your local electricity production to the grid to save unused energy?
  - Install a battery storage system?

# OBSERVE AND PLANNING

# OBSERVE

**Continuously monitoring where the purchased energy is taking place is one of the most important building blocks for a successful energy work. The follow-up will give you knowledge of how energy is used. Observing your energy use also provides information about the results of the actions that you implement. Therefore, regularly collect the amount of energy purchased and divide energy into different energy types. Do not forget to monitor energy usage for transport. In table 5.1 and 5.2 we have made a template that you can use to estimate your annual use of energy, water and fuels for vehicles.**

### Heat, electricity and water

Table 5.1. Inventory of energy consumption and costs

| Cost item | Annual volume | Annual cost | To think about: |
|---|---|---|---|
| Oil | m3 | Euro | |
| District heating | kWh | Euro | Include fixed and variable fees |
| Biofuel | m3 | Euro | Include shipping costs |
| Electric mains | kWh | Euro | Include fixed and variable fees |
| Electricity Trading | | Euro | Include fixed and moving (energy tax and electricity certificate) fees |
| Water | m3 | Euro | Include fixed and moving fees |
| Disrict cooling/cooling that not is included above | | Euro | Include fixed and variable fees |
| Other: | | Euro | |
| | Total: | | |

**Key figures heat, electricity and water**

In order to compare energy usage between years, it is also interesting to link usage to how much your space and services are being used. Examples of key ratios that may be interesting to follow up are, for example:

- Energy usage per guest night
- Electricity consumption per guest night
- Water consumption per guest night
- Energy usage per number of meals sold

### Fuels (vehicles and work machines)

Table 5.2. Inventory of fuel consumption and costs

| Cost item | Annual volume | Annual cost | To think about: |
|---|---|---|---|
| Petrol | | Euro | |
| Diesel | | Euro | |
| HVO | | Euro | |
| Biogas | | Euro | |
| Electricity | | Euro | |
| Other fuel | | Euro | |
| | Total: | Euro | |

# IDENTIFYING ACTIONS

Now that you know how much energy is used and what it's used to, it's time to start identifying possible actions. Many believe that it is in the processes that use the most energy that can be more efficient. However, you can find processes that use a smaller amount of energy but, in return, you can make a big efficiency with a small effort. A common mistake is that the "soft" measures are not investigated. Often, too much focus is placed on technical measures that require larger or smaller investments. A significant part of energy use can be captured by changing operating routines, behaviors and attitudes.

**How much you can influence yourself when it comes to action also depends on whether you own the property or if you rent premises. When you rent premises, dialogue with the property owner is important.**

**Engage the staff for identifying possible behaviour changes**

Many companies start their energy efficiency efforts by calling an energy consultant and ordering an energy survey. Another way is to start looking at a part of the business where the company believes it can make a big savings, such as the heating system. What you risk losing by doing so is that your own staff can´t get a speech and feel no commitment. A successful and long-term energy efficiency work is linked to the management's and staff's common commitment. Start creating this commitment by organizing any kind of meeting or workshop at the company that focuses on the energy issue.

For assistance with lecture and management of the workshop, contact your local energy and climate advisor or your regional energy agency.

After the review you can discuss the following in smaller groups:

- Are we aware of our energy use?
- What suggestions do we have on energy efficiency measures?
- How can we contribute or stimulate reduced energy consumption in our daily work?
- Do we have the knowledge that we need or do we need to get help from outside?
- Can we change our routines (operations, purchases, etc.)?
- How do we measure and monitor energy use? Do we have good measuring equipment?
- Are we following the impact of implemented measures? How?
- How do we inform our guests about our work?

The basis you have provided is the basis for starting to formulate policies, purchasing procedures, operating procedures, action proposals and suggestions for further work. At the same time, you have anchored your work and created commitment to the entire organization. Often there are already good proposals for energy efficiency measures that, in principle, need not cost anything.

# LOOK FOR POSSIBLE SOLUTION WITHIN KEY AREAS

Look for possible solutions within four key areas. The key areas are:

- Energy efficiency
- Energy supply and production
- Sustainable travel and transports
- Energy management

# CIRCULATION PUMPS

Circulation pump takes the heat from a source, such as the district heat exchanger, heat pump or boiler, warms the elements or floor heating hobs and back to the heat source. Old and dis-regulated pumps that run around the clock and all year round take a lot of energy. By switching to a modern circulation pump, it can reduce energy costs.

# ENERGY EFFICIENCY

Energy efficiency is the use of energy as economical and efficient as possible for users, and at the same time as sustainable as possible for society. This reduces environmental and climate impact while at the same time contributing to business's increased competitiveness. The cost of the actions you implement is earned through reduced energy costs. Moreover, there are other financial benefits on the purchase of new systems such as increased productivity and improved indoor environment.
Energy efficiency is achieved through technical solutions - such as type of lighting or recovering heat from the exhaust air. Energy can also be saved by a change in behavior or new business offers, for example by turning off unnecessary lighting or offering customers the opportunity to borrow electric bicycles as alternative to car trips. In this section we focus on what you can do to energy-efficient in the building linked to technical solutions.

In case study 9.2 you can read about the benefits for a hotel that works with energy efficiency.

# BUILDING ENVELOPE

Building envelope is a collective name for those parts of the building that keep the cold outside and the heat inside a building. There are, for example, exterior walls, basement walls, ceilings, floors, windows and exterior doors. In order to reduce the heating costs of a building, it is often profitable to review the climate scale.

**Insulation**

Insulation is used to restrict undesired heat exchange. It can help to keep warm places heated and cool places cooled. For example it can prevent that heated space loses warmth to the cold outside air. Good heat insulation in walls, floors and ceilings is the most effective way of reducing the building's heat losses in winter and prevent "overheating" in the summer. Such measures reduce the cost of heat and cooling.

It is common to improve the insulation associated with refurbishment and renovation, in order to offer guests better living and energy saving.

The most cost effective is to start by insulating the roof. If this measure is already done, then you can proceed to look at the needs and possibilities for additional insulation of exterior walls.

In most cases, the best way is to insulate the exterior wall. That gives a high insulation effect and the old construction becomes warmer and drier. In case of culture-historically valuable building or if the façade consists of a ventilated brick shell, external additional insulation may be inappropriate. Then you can instead do an internal additional insulation.

When insulating roofs and/or walls, it is important to inspect the ventilation in the building. When air tightness changes, the ventilation must be adapted to the new conditions. Otherwise, there may be problems with moisture damage.

Even buildings that generally have a good insulation can have imperfections that contribute to traction and heat loss. Heat and air leaks through slots, insulation inserts, cold bridges, etc. That can impair thermal insulation ability. Such imperfections in walls and ceilings are usually found in connection with building components eg. at floor and ceiling angles and around windows and doors. Another problem area is installation implementations, such as channel transitions in windbreakers.

**Thermography**

A thermographic camera is a good tool for finding heat leakage, it makes possible to map where energy losses occur inside or from a building. The method is quick and the heat images taken by the camera are clear and convincing arguments for possible actions (see figure 5.1.-5.2).

A control of the building with heating camera can for example:

- Visualize energy losses
- Detect insufficient insulation
- Locate air leaks and cold bridges

In some municipalities, energy and climate advisors have access to thermographic cameras, or they can advise you on companies that work with thermography.

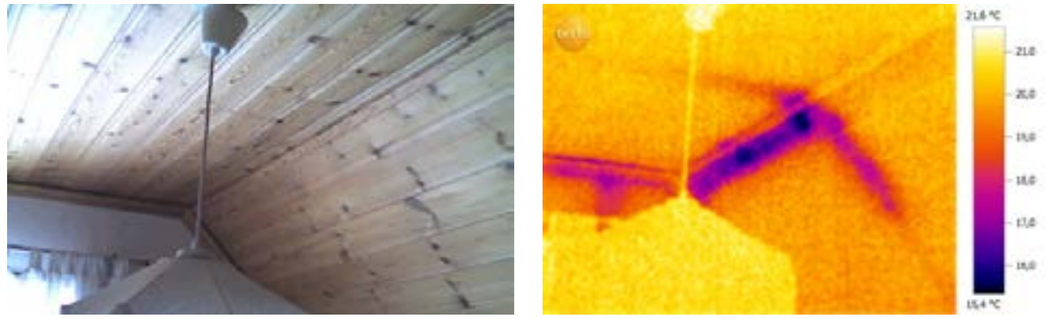


Figure 5.1. The heating camera shows cold surfaces in the roof where, for example, it may be poor insulation or a cold bridge. Photo: Mikael Nyman

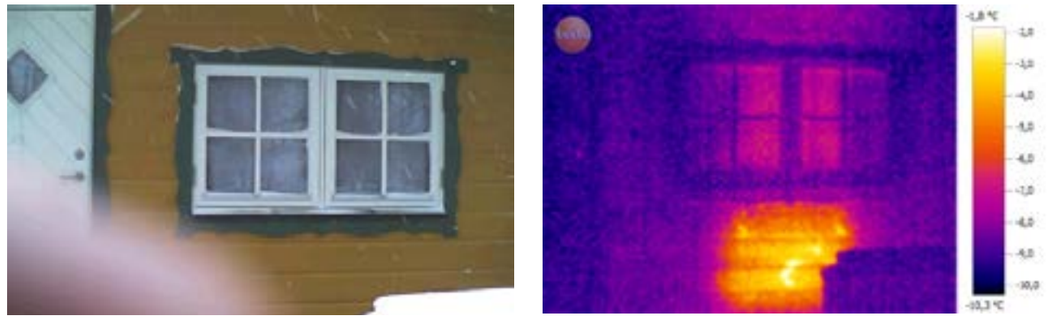


Figure 5.2 The thermographic camera shows that a lot of heat from the element radiates through the wall. The insulation needs to be improved. Photo: Mikael Nyman

**Windows and doors**
Windows and doors also play a major role in the building's energy consumption. Heat can leak through cracks or low insulating materials. This means energy losses and higher costs.

Measures can be a relatively simple such as sealing windows and doors or choosing windows and doors with better insulating properties in connection with renovation. The positive of such measures is that the heat loss, whiff and noise from outside diminishes.

For hotels with large entrance doors it can also play a big role in how long the doors are opened and if there is an airlock to avoid cold to leak in the entrance.

Windows can be major energy thieves. Old and poorly insulated windows mean major energy losses. Up to 30% of the heat in a building can disappear through the windows. By replacing old windows with new energy efficient windows with low U value, it can significantly reduce heat losses.

Double glazing provides a good insulation. In addition, modern glass surfaces like low-emission glass and sunscreen, you can significantly reduce the need for heating and cooling. Because it is quite costly to replace old windows, an alternative that can be profitable is to complement the existing windows in ways that prevent heat loses, for example with better glazing. This is especially true if the windows are well maintained.

After changing the window, the heating system must be adjusted to reduce energy consumption. Also, consider revising the ventilation as the air density in the building changes in conjunction with the change of window.

**Blinds**
Blinds are becoming increasingly common in cooling to increase the comfort of buildings during the summer. First look at the possibilities of sun shielding. External sunshade is more efficient than internal. Internal protection prevents the solar energy from entering the building but heats the air between the window glass and the blind, in consequence the warm air is then passed on into the building, however at a lower rate.

**Common ways to protect against the sun are:**
- Fixed horizontal external sun protection (swingable or fixed): for example, slats, gratings, PV-cells or balconies.
- Movable exterior vertical sun protection, especially for facades to the east and west: for example shutters, exterior shutters, blinds, awnings and light-blind blinds.
- Indoor sunscreen: for example curtains, blinds, blinds.
- Vegetation: climbing plants on north and west facades, deciduous trees to the south (sunbeams shine through deciduous trees in winter and absorbed in the summer). Vegetation improves the microclimate by evaporating water and cooling the air.

Choices of colors and materials are also important in reducing the heat supplement. Light color and materials that do not absorb so much sunshine reflect the sunbeams and keep the building cool when the sun shines. Dark surfaces and high-absorbent materials provide warming. In cold weather, dark areas are recommended to increase the passive heat supplement during winter time. Moreover, look for material can be recycled. There is a strong movement for reusing natural or syntetic fabrics, you can help to increase the circularity of your business by choosing one of these materials.

# VENTILATION

A good indoor climate and a healthy working environment are dependent on ventilation - fresh air enters the building and "polluted" air is released. An unbalanced ventilation can cause problems, for example, if ventilation is too strong, it will extract heat from the building.

Some key features of an effective ventilation system include heat recovery and the ability to adjust airflow as needed. Both features reduce energy usage and operating costs for the house. For example, there are programs for controlling airflows via the booking system, so that the ventilation is not running in unoccupied rooms. Similarly, ventilation in conference rooms can be controlled after use.

Exactly how the ventilation should be constructed and calibrated depends, of course, on the type of building and its uses. If you change the use of the building, you also need to adjust the ventilation.

Here are some questions that are good to review in terms of ventilation:

- What type of ventilation system do you have?
- Is the ventilation correctly adjusted after the airflow?
- Are the operating hours of the ventilation necessary?
- Do you have heat recovery of indoor air?

There are different types of ventilation systems:

- natural ventilation
- exhaust air system (F),
- Off and supply air systems (FT) and
- heat recovery and supply air systems (FTX)

Self-propelled systems (natural ventilation) are most common in buildings built before 1970. These older ventilation systems are based on the fact that fresh air enters the building through valves and imperfections. This system rarely meets today's demands for comfort, airflow, electricity and energy efficiency. Unfortunately, there are no technical possibilities for recovering heat in the outgoing air in a self-propelled system. It is possible to reduce energy consumption by replacing existing air valves to new ones that can regulate the air intake according to outside temperature and humidity. If you have self-propelled systems, you can review the possibility of installing a better ventilation system.

In the extract air system, air is supplied in the same way as in a self-propelled system. The difference is that air outflow is done with the help of fans which are often found in the kitchen and bathroom.

Electricity use in exhaust systems can be reduced if the old fan is replaced with a new one with higher efficiency and with modern control and control equipment. Pressurized exhaust air fans save heat energy by sensing when the house is being overventilated, and if so it slow down the fan speed. With modern technology, ventilation flow can be varied by season - less in winter and more during the summer. An exhaust air system can be supplemented with an exhaust air heat pump to recycle the heat contained in the extract air.

Instead of allowing the heated air to be thrown away by the ventilation system, you can take advantage of the waste heat in a heat recovery system, known as FTX system. The system raises the temperature of the supply air with heat from the exhaust air. Energy savings can be around 50-90% compared to having a normal ventilation system.

One simple solution is to check if ventilation times can be reduced. Many times, ventilation is also ongoing when no one is staying in the premises, for example during the night or on weekends.

Another solution is upgrading of any existing heat recovery in the building is usually the most efficient energy efficiency measure. This can be done, for example, by replacing the heat exchanger and fans in the ventilation unit with new and more energy efficient variants. In many cases, it may be worth considering a replacement of the entire unit because old units are often poorly insulated and untight compared to new ones. SFP - Specific Fan Power is a measure that indicates the energy efficiency of a fan or unit. SFP should be no more than 2. The lower the number the more energy-efficient fan. Better heat recovery of indoor air contributes to reduced peak power, which in turn can result in lower fixed costs for electricity or district heating.

**Adjustment, maintenance and clean ventilation ducts**

Having a functioning ventilation in the premises is important for the health of the staff, clients and for the well-being of the building. A first step is to clean all ventilation ducts and filters. The denser and dirtier a filter is, the greater the need for electricity. If the ventilation duct 100 mm means a 5 mm coating a reduction of the ventilation flow by 20%. This is especially important in the kitchen.

No matter what mechanical ventilation system you have, it is important that it is properly adjusted. This is an important pre-requisite for efficient energy use in buildings. When installing or rebuilding the ventilation system, an initial adjustment must always be performed. Moreover, regular maintenance and follow up with the required ventilation controls reduces the risk of poor indoor climate, ventilation noise, moisture and radon problems.

# HEATING AND COOLING SYSTEMS

Regular maintenance, reduced heat / cooling losses and the correct set temperature can increase efficiency and performance in heating and cooling systems. Additionally, using central control and regulating systems for heating and cooling, as well as to lighting and ventilation makes it possible to control indoor comfort in tourist facilities while minimizing energy dissipation. Currently, there is much talk about smart houses where different functions can be monitored and remotely controlled.

Here are some questions to discuss when it comes to heating and cooling systems:

- How well adjusted is the heating system?
- What are your controls for optimizing indoor temperature?
- Is solar energy a good option for you to produce heat and/or hot water?
- If you have refrigeration storage, is there a possibility of recycling heat from the refrigeration engine?
- Is there the possibility to use proximity to the sea for comfort temperature control?
- Is it interesting to install solar cells to produce electricity when the cooling needs are high?

**Measurement and statistics**
As in any other energy efficiency work it is important to keep regular measurements. Preferably, the meters should be read monthly or more often – and then registered into the log system, which can be done by hand or with support of an automatic system.

In this case, measurements of heating consumption need to be "adjusted" so we are able to be comparable one year to another year. This happens the outdoor temperature varies between years. There are several programs that easily handle energy statistics for one or more buildings.

**Thermostatic valves**
To use heat from solar radiation, people staying in the room or technical equipment, radiators should have thermostatic valves that regulate the heat. The heat supply is discontinued if the thermostat valve detects other heat sources. This reduces energy consumption and contributes to a more comfortable temperature.

**Optimization of indoor temperature**
Traditional control of waterbased heating systems adjusts itself by controlling the flow temperature according to the outdoor temperature. Today there are different control systems that also takes into account other parameters such as indoor temperature, weather forecasts, internal heat loads and the building's thermal integrity.

It has also become more common for property owners themselves to install indoor temperature sensors and use them to control the temperature. In such cases, often existing control systems often need to be re-programmed. Heat control based on indoor sensor allows for better indoor climate and reduced energy and power requirements for heating, saving both environment and money.

Indoor temperature can also be controlled via the booking system, so that ventilation increases when the guest has checked in. Example: Install system temperature control system, and set the temperature of 21 ° C when the guest checks in and decreases to 18 ° C upon check out.

There are also energy management systems in buildings that check and monitor the operation of buildings that could be used to adjust the heating in the building among other energy related areas such as ventilation, lighting, electricity, etc. See more in chapter 5.7. Energy Management systems). In this context, we start to lean towards the so-called "smart buildings". A smart building that is connected to a smart network allows remote control or automatic control of heating and cooling, water heating, appliances and lighting, for example, depending on time and day, humidity, outdoor temperature and if the building is used or not. If you have multiple buildings, there is a system where microcomputers with built-in sensors can continuously measure the situation in the current building. With the help of antennas, information from the different buildings can be collected. Through good access to such data, adjustments can be made to optimize operation or, for example, detect leaks.

**The actual heating system**
Measures to improve and improve the central heating system:

- Check that the boiler (or other heat source) size and radiator area correspond to the heating requirement of the building as a whole, or the room in which it is located. If it is oversized you may consider obtaining a new system.
- Regular service on boiler equipment, etc., to ensure safe and efficient operation.

- Isolate the boiler and pipes
- Check the system for leaks and corrosion.
- Use a digital thermometer to make sure the temperature is set correctly - the heating costs increase by about 8% when the indoor temperature increases by 1 ° C.
- Have the right water temperature in the boiler and heating system - Use thermostat to ensure that the water is not warmer than necessary.
- Install programmable thermostats to vary the temperature during the day or week, for example, to reduce the temperature at night.
- Switch to a system that warms both the rooms and the hot water.
- Regulate the room temperature with thermostatic valves on the radiators.
- If you have an old heating system, it's a good opportunity to replace it when renovating a building. The conversion into an efficient building makes it possible to switch to heat pumps, solar thermal, geothermal heat or waste heat.

**Energy efficient cooling systems**
Measures to improve and improve the cooling system:

- Regularly service refrigeration systems to work safely and efficiently.
- Use high-quality filters and low air resistance. Replace filter frequently.
- Install an economizer that cools the air before entering the air conditioner.
- Check that the temperature is set correctly - to cool buildings at 24 ° C. Additional cooling costs more.
- Install programmable thermostats in central cooling systems to set temperatures that vary during the day or week.
- Install sensors for windows and doors that turn off the air conditioner when open.
- Recycle heat from refrigeration engines, air conditioning and any refrigeration and freezing compartments. Use heat for warming hot water or water in the spa.

**Free cooling**
There are many different types of free cooling, but one thing they have in common - environmental impact and energy use are small compared to traditional compressor cooling devices. It is possible to produce free cooling for comfort cooling by using natural cold in water, air or bedrock.

Cold water is pumped from sea, lake or a geothermal source. In the building where the cooling is to be used there is a heat exchanger that transfers the cooling in the water to the building's cooling system. When the cold water is no longer cold, it is led back and cooled again to pump it back.

If your company has geothermal heat, you can use the borehole to cool the water. At the same time, the borehole is reloaded with the leftover heat. The average temperature of the borehole increases, which provides a better efficiency to your heat pump.

An alternative is to use the outdoor air when it is cooler than the air in the room to be cooled.

In some places there are also possibilities for connecting to district cooling produced by municipal energy companies.

**Produce your own electricity to your cooling system**
The development for companies to produce their own electricity gives new opportunities for cost constraints. For example, solar cells can be good to meet a high demand for electricity for air conditioning.

# WATER-TIGHT FIXTURES AND EQUIPMENT

Water-tight showers reduce a lot the head demand. They can either mix air into the water jet or restrict the amount of water flowing in the shower or out of its nozzle. Yet, such technolgies retain the feeling of a powerful shower jet. With water-tight showers, the consumption of cold and hot water can decrease by 50-60%.

By installing taps that are self-closing on toilets you can also save water and energy.

With efficient washing machines and dishwashers, the water needs can be reduced even more. Remember to consider water and energy consumption when purchasing new washing machines and dishwashers!

Example Ribersborgs coldbathhouse in Malmö installed two screwdriving shower systems. The new technology reduces water consumption by about 90% and energy consumption by 80%. In two months more than 100,000 liters of water were saved.

# LIGHTING

Good lighting is important for the guests' and staff's comfort, as well as for your facility atmosphere. It is common for you to save up to 30-40% of the lighting without affecting comfort. It is usually easy and profitable to energy-efficient lighting.

**Here are some questions that are good to review when it comes to lighting:**

- How old are your lighting fixtures, are they more than 5 years old?
- Are there reflectors in the fixtures? Are the reflectors cleaned once a year?
- Are the luminaires equipped with LED lights?
- Is the lighting sectioned?
- Is the lighting demand-driven?
- Is it often lit in corridors and places where people usually do not stay?
- Is there any presence control or any other type of control installed?

The power consumption of the lighting can be reduced by selecting energy efficient light sources, installing technical control systems as presence control or by sectioning the room. Start by finding out if all lighting is useful. In rooms with daylight, the lighting sometimes doesn´t need to be lit at all. In conference rooms and staff rooms, lighting is often lit despite the fact that nobody is there. Installation of presence detector, timer or daylight sensors can significantly reduce power consumption. It is therefore important to choose the right lamps and light sources for optimum lighting! Keep in mind that luminaires are often used for many years, so there's a lot to be saved in choosing luminaires for effective A ++ to A lamps. In the case of the lamp itself, LEDs are energy low. Select lamps with energy labelling class A to A ++. Do not forget to replace lighting also in advertising signs and signs for emergency exit etc.

**With control and control equipment you can save even more energy. Here are examples of systems that can be used for lighting:**

- Dimmer is used to vary the brightness manually. Can be used in rooms.
- Motion detector turns on the light when they detect someone in the vicinity. Energy consumption can be reduced by up to 80%, as no energy is wasted when the room is empty. It is good from the energy efficiency point of view to be used in corridors, stairs, public toilets, refrigerators, freezers, staff and storage spaces regulated.
- Light level sensor turns on the lighting when the light falls below a certain predetermined level. Can be used outdoors, in reception / lobby in corridors and stairs and in other public areas.
- One way to save even more is to connect the lighting to a key lock where a key card is required for lighting in the hotel room. The system consists of a magnetic card and external and internal card reader. When the guest puts in a valid card, a green LED lights up indicating normal operation and opening the door. It can be used to control lighting and ventilation and more.

Restaurants may have different lighting needs, depending on the atmosphere you want to create and whether the business is on coincide with day light. Divide the lighting into different areas / sections and make sure you can control the lighting individually. Then you can customize the lighting in different parts of the room according to your wishes and needs. You can customize the lighting with different luminaires, lights and dimming.

In the kitchen the lighting is lit for a large part of the day. It is common with fluorescent lamps with traditional T8 fluorescent lamps. By replacing new, energy-efficient T5 luminaire, you can reduce electricity consumption by about 20%. You also have a longer burn time, while the excess heat and cooling needs decrease in the kitchen.

# ENERGY SUPPLY AND PRODUCTION

For us being final electricity consumers sometimes it is very difficult to imagine where it comes from or what are the ways it is produced. Still by consuming electricity we are in some extent responsible for the oil or coal burning and air pollution during electricity production process somewhere at the other end of the cable.

Here we can mention a few ways of being more responsible – to be more energy efficient or to consume energy produced from renewables.

This item takes a general overview into the ways we can have access to renewable energy in your business. In short, it is either possible to consume the energy from an "ecological" provider, or the alternative is to produce our own energy. In this chapter we will explore electricity, heating and cooling in relation to its sourcing and productions

A business consumes energy in many ways. For this reason it is important to know whether the energy we use come from sustainable sources. Overall the main energy uses of energy are around electricity, heat and cooling, as well as fuels.

# ELECTRICITY

In modern times it is very difficult to imagine your life or business without electricity. It is waving around us in pretty all machines and devices. Even if there is silence in the room we still can see tiny red lights on those modern boxes, fulling your WiFi, the telephone and the microwave.
Sourcing electricity

Normally the supply chain of electricity starts from production at oil, coal, gas, biomass combustion plants, wind or solar farms, is followed by large high voltage transfer grids, wide lower voltage distribution grids and finally comes to consumers. Mainly in the European Union energy market is demonopolised, so we can choose from a variety of electricity suppliers with different plans and prices. In some countries of the Baltic sea region we even can request suppliers to provide us only electricity produced from renewable sources, such as wind, hydro or solar power.

Until this kind of production scales and stabilizes, that does not guaranty to have better energy prices, however it gives clear marking of your tourism SME as being "responsible" in terms of decreasing environmental pollution. This can be used for marketing purposes of making your business more popular in some customers groups.

**Producing your own eletricity**
Wind turbines of small or large scale can be placed on the roof or in the premises of your business location. They will produce electricity for your needs with possibility to store or sell excess energy to the grid. In some countries of the Baltic sea region electricity storage in the grid is being regulated by laws on renewable energy and can reduce overall energy prices while in other countries is still not legalised. It must be mentioned, that production of electricity from wind at your business location is very specific and mainly is limited by legal regulations related to noise and vibrations as well as it can cause discomfort to your consumers.

At the same time solar installations are more friendly and even can be invisible while placed on the roof of the business property. Price of solar installation each year is dropping significantly, so in comparison with nuclear power solar power is already cheaper.

Electricity production from the hydro plants is site specific while still is possible in some locations.

Look at case study 9.3, to see how a hotel used their solar plant for marketing among their guests.

**Cooperatives and symbioses**
We even can start to produce our own electricity from renewables (become prosumers) or become a part of cooperatives producing energy from renewables. Becoming a part of cooperative producing energy from renewables is a good idea as you don't have to become a renewable energy specialist, but you can still be involved in energy production from renewables. You will have the possibility to buy and consume energy as well as use the fact for the promotion of your tourism business.

**Being part of the grid – maximizing your production and investment**
At the same time, it will produce electricity for your needs with possibility to store or sell excess energy to the grid. In some countries of the Baltic sea region electricity storage in the grid is being regulated by laws on renewable energy (excess energy can be stored in the grid or sold to the grid operator) and can reduce overall energy prices while in over countries is still not legalised.

# HEAT

From the old times human had to keep their homes and bodies warm, especially in the cold seasons. Off course we are talking about more northern regions (not Equatorial Africa) with seasons when outside temperature drops down to some 10 degrees or less. Fire was the main source of heat for many centuries, while heat carrier was slightly changing from air to water. That was a logical transition as when buildings, blocks and towns are becoming bigger, it is very difficult to supply heat using air.

**Sourcing heat**

Now in most of the towns we have so called district heating systems which supply hot water to hundreds of buildings through underground pipelines. District heating concept allows to concentrate heat production (burning/air pollution control and management) in one or few places while still has significant energy losses in pipeline as well as high maintenance costs during the life time of the pipeline.

For last decades we can see the trend of replacing coal, oil and gas with renewable fuels (still burned biomass, biogas), which still does not totally avoid green gas emissions. Possibility to buy heat produced from renewables gives clear marking of your tourism SME as being "responsible" in terms of environment pollution. This can be used for marketing purposes of making your business more popular in some customers groups.

Locally produced heat energy allows to avoid significant energy losses in pipeline in comparison to district heating while puts all production and O&M expenses on your tourism business SME. Still a good idea would be to replace coal or oil with straw/wood chips/pellets or gas with biogas. In some countries this will lead to lower heating price through tax reduction – check out what is applicable in your country.

In longer prospective majority of EU countries are planning to stop burning fuels, which leads to the use of solar (solar collectors), geothermal energy or electricity for heating.

**Producing your energy for heating and cooling**

Solar collectors can be used to provide hot water as well as to supply comfort heating.

Another solution is geothermal heating. Geothermal energy is heat energy generated and stored in the Earth. It can be used by the heat pump to arrange proper heating of the hotel, restaurant or SPA. Depending on the technology used (shallow, deeper) it can give significant drop in heating price at the same time avoiding greenhouse gas emissions. And off course we must not forget, that heat pump works both directions, meaning it can be used for cooling in hot summer season. It must be mentioned, that use of geothermal energy at your business location is very site specific and can be limited by insufficient space as well as legal regulations.

If your company is situated next to the Baltic Sea or a lake seaheating and cooling can be an option. With seaheating you have pipes on the bottom of the sea connected to a heating pump. The price is similar or lower than the installation for geothermal energy, depending on how much diving works that needs to be done.

# COOLING

Cooling is same important as heating due to huge amount of electricity spent for air conditioning in majority of hotels and restaurants. When planning to build a new building, "Passive house" concept through right positioning, allocation of windows, special construction materials and etc. allows to avoid expensive air conditioning (cooling) systems. Unfortunately, that is almost impossible (or at least very expensive) to implement in already existing buildings. So we can use external solutions like geothermal energy. It even can be a water tank placed under the surface of the ground with the opening left open during all cold season. With the increase of the outside air temperature water inside the tank will remain cold enough to be pumped through water heating (and now cooling) system and cool the building during all the hot season.

Some possible action in source and production of energy are

To source:

- Check the possibility of sourcing renewables
- To buy electricity produced from renewables
- To buy heat produced from renewables

To produce our own energy check the possibility and advantages of:

- To install wind turbine
- To install solar power plant
- To build hydro power plant
- To become a part of cooperative
- To replace fossil fuels with renewables
- To install solar collectors
- To install geothermal power unit
- Partake in an energy cooperative

# SUSTAINABLE TRAVEL AND TRANSPORT

We depend on transportation to move goods and people between different locations. Not least, to travel to excursions, go on holiday and see and experience new places and cultures. Travel is increasing and new generations grow up with the whole world as possible destinations. Transportation is an important part of the visiting industry and how easily accessible an attraction affects how popular the attraction is.

At the same time, the transport sector is our biggest challenge for reducing greenhouse gas emissions. In Sweden, we have come a long way to using renewable energy for heating and electricity, but it still uses a lot of fossil fuels for our cars. Replacing fossil fuels with renewables is therefore an important issue, especially in terms of circular economy. At the same time, we also need to look at how transport can be more efficient and if there are alternatives other than choosing the car.

Within the visiting industry, an important part can be to see which travel options are available to the guests and offer package solutions with accommodation and travel. It can also be about offering guests good options when they are in place. An example is to offer accommodation guests to rent or rent electric bicycles to get to nearby destinations, restaurants and more. Or why not offer sustainable excursion packages? Here there may be a potential for developing new services / solutions!

If travelers become more aware and place higher demands on sustainable companies in the hospitality industry and transport companies, companies that meet customer needs have a head start compared to companies with less environmentally friendly alternatives.

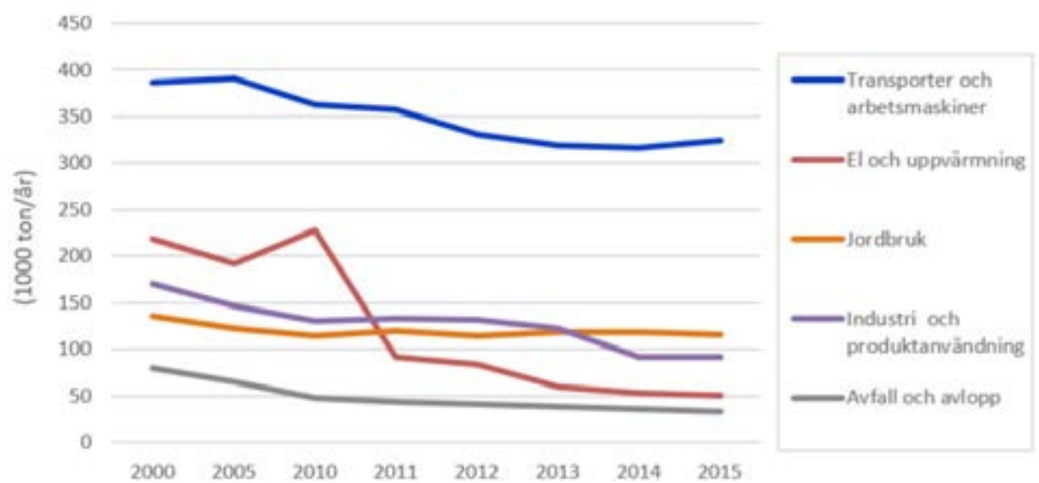
# THE CAR HAS GIVEN US A COMFORTABLE WAY TO TRAVEL - BUT THE TRIPS AFFECT THE ENVIRONMENT

Road traffic causes large carbon dioxide emissions that adversely affect the climate, nature and people. Emissions contribute significantly to the greenhouse effect and to acidification and eutrophication of soil and water.

Transports also causes noise problems. Nearly two million people in Sweden today are exposed to traffic noise that exceeds the guideline set by the government for outdoor use at the residence, 55 dBA. It's a hidden health problem!

Roads become barriers for both humans and in nature. In today's cities, traffic routes are often barriers between different districts and can be an obstacle for those who want to go safely. As a result, many people choose the car to travel short distances. Roads also affect the conditions for conservation of biodiversity and ecosystem services that are important to humans.

Reduction of $CO_2$ emissions from transport - a major challenge for many regions Combustion of fossil fuels such as petrol and diesel causes carbon dioxide emissions. It contributes to the greenhouse effect and has a negative impact on the climate. Road transport accounts for about 30 percent of Swedish emissions of $CO_2$ and the proportion continues to increase as road traffic increases. In Blekinge, transport accounts for 66% of total $CO_2$ emissions in the county. Of these, passenger cars account for 35% of total $CO_2$ emissions (National emissions database data for 2015). In other words, it is a challenge to find solutions that make it possible to travel without affecting the climate! Here, for example, biogas cars and electric vehicles are good alternatives. Biogas and electricity are also fuels that can be produced locally. It's also good to find solutions that mean we do not need to use the car as much!




Source: Climate- and energystrategy for the county of Blekinge.

# OPPORTUNITIES TO REDUCE CLIMATE IMPACT FROM TRANSPORT IN THE VISITING INDUSTRY

Transport is needed to allow tourists to travel to and from the destination. When the tourist is in place, there are transports for food, trade and other things that the tourist consumes. Important parts in addition to the personal transports, are distribution of goods and cleaning. Larger tourist locations often have a restaurant, shop and other services that require delivery of goods. In addition, waste is generated that has to be handled. These parts of the transportation industry are also important for the tourist facilities to operate. In other words, there are environmental benefits to do through dialogue with suppliers of goods and services.

Those who conduct a business focused on offering accommodation, food and / or spa can work to get more sustainable transport by:

- Work with the company's own transport, choice of transport modes, vehicles and fuels
- Set requirements for / dialogue on supplier transport
- Offer the guests sustainable transport options
- Minimize the need for transportation, buy goods as local as possible

# THE COMPANY'S OWN SHIPMENTS AND REQUIREMENTS FOR SUPPLIER TRANSPORT

Start by inventing all transports that your business results in, both your own transports and the transportation services you buy. Review them and think about how to reduce the environmental impact of your transport.

**Here are some examples of actions you can work with:**

- Develop a policy for your work on sustainable transport. Policies may include the company's own vehicles, staff travel, the goals and requirements that will be placed on suppliers.
- Change to renewable biofuels or electric power for your own vehicles. Set the corresponding requirement that your suppliers of goods and services run on renewable fuels.
- If you do not have access to renewable fuels, use a fuel that is as good as possible. Use low fuel consumption vehicles. Set the same requirements for suppliers of goods and services. If you buy a new car - does the manufacturer work with circular economics?
- If you have many suppliers, it may be a good idea to make demands for coordinated deliveries from the suppliers. Coordinated transport can benefit both you and the suppliers.

The procurement authority helps public actors to formulate environmental and sustainability requirements for procurement. The requirements can also be used by companies. Requirements are collected in criterion libraries that are accessible to all. There you can find tips on requirements related to vehicles and fuels. For example, suppliers may have training in ecodriving, vehicle requirements, route optimization requirements and fuel.

Show where you find criteria and how they look for vehicles:
https://www.upphandlingsmyndigheten.se/hallbarhet/stall-hallbarhetskrav/
https://www.upphandlingsmyndigheten.se/hallbarhet/stall-hallbarhetskrav/fordon-och-transport/

**Ev. discussion passport**
What shipments do you have in the company? What shipments do we cause by deliveries and more? Is there any way to reduce transport needs or to make them more sustainable?

# OFFER GUESTS SUSTAINABLE TRANSPORT OPTIONS

One way to make it easier for your guests to make good travel options is to reduce their car needs when visiting your location. Then it's also easier to go collectively to you. This can be done in many different ways depending on how your visitor's destination looks. See the following examples as ideas and think about what can work with you.

- Collaborate with public transport companies to open lines and a stop-over to suit your business
- Add public transport as the first option in "How to find the way" on your site
- Have easy-to-access information about times, lines and ticket purchases for local traffic, for example in the entrance or in the rooms.
- Offer attractive and sustainable package holidays with both travel and accommodation or experience.
- Offer guests to borrow or rent bicycles / electric bicycles for various excursions. Perhaps there is the opportunity to collaborate with more companies in the immediate area and develop a common bicycle pool. Example if there is rental bikes at the train station, the need for car and taxi rides reduces.
- Develop sustainable offers / excursion packages, such as guided bike tours
- Access to the car pool if transport is needed on site

For those guests who come by car or want to rent a car, it may be good to be able to offer a charging point for electric cars. Collaborate with a car rental company or car pools that can deliver cars that use renewable fuels. Tell your guests about these opportunities on the web. If you recommend taxi companies, recommend the companies that run with environmental cars.

**Examples where companies work together to provide sustainable transport solutions**
Alpine pearls - holidays in ecomotion
What does "Alpine Pearls" stand for? It stands for car- and carefree holidays. The umbrella organization Alpine Pearls joins together 25 Alpine villages in their quest for gentle mobility and climate-friendly holidays. Guests at these villages will enjoy carefully chosen environmentally friendly mobility solutions. These hand-picked villages provide a variety of mobility options ensuring your ability to get around in ways that do not adversely affect the environment. Guaranteed! When you use the train and/or bus for your trip to a Pearl, you will take advantage of our typical Alpine Pearl comfort right from the start throughout your entire stay here.
https://www.alpine-pearls.com/en/

**Examples of development of new offers**
Astrid Lindgren's world in Vimmerby is considering developing an offer with packages from Stockholm to Vimmerby, where bus travel, accommodation and entrance to Astrid Lindgren's world are included. By offering such charter bus trips, they can attract more visitors from the region of Mälardalen. At the same time, trips can be made more sustainable compared to each family driving their own car. Astrid Lindgren´s world has also got an own railway station, where the train stops during the high season.

Offer non-car activities. It is more common for different visitors in the visiting industry to offer activities where visitors combine experiences and physical activity. This may include guided bike tours or food walks. Perhaps you can develop such an offer yourself or with any other company in your area.

**Discussion sessions:**
How do you see today's travels? Is there anything you can market in another way? What offers do you have or could develop? Are there other companies you can work with to find transport solutions?

# REDUCE TRANSPORT NEEDS - AVOID UNNECESSARY TRANSPORT

- Select goods and commodities transported as short as possible along the road. For example, if you have a restaurant, you can buy locally produced food.
- Own cultivation of vegetables, fruits and spices
- Plan the menu by season to reduce the need for long shipments of non-seasonal commodities. What are energy efficient products from a transport perspective?
- Collaborate with suppliers and create local supply chains
- Select locally produced materials for buildings and furniture, and more
- Waste Minimization

Handling goods and food produced locally reduces the need for transportation. Today, for example, about half of what we put on the plate from other countries. What we import most is fish, fruit and vegetables. Often it is about products that can´t grow in Sweden. But we also ship as much as we could grow ourselves. For example, we import 12 kilos of apples and pears per person, mainly from Italy and the Netherlands.

Many fruits and vegetables, with short shelf life, are transported by air or in refrigerated transport. It has a high climate impact and it is smarter to instead choose fruit and vegetables produced close or transported by boat. Road haulage also needs to be reduced, for example, by transporting more goods by rail or by loading more in each truck (increasing the fill rate).

**Final task:**
Make suggestions for actions that you can work with in your company.

What concrete measures can you work with and what areas do you see needs / the opportunity to develop new services?

You can use the table 6.1 section for actions related to travel and transports.

# ENERGY MANAGEMENT SYSTEMS

# ENERGY MANAGEMENT SYSTEMS

Energy Managements System support you in collecting data in relation to energy use. The correct system analysis, metering and recording the consumption of energy and hot water use is essential to create a base line as well as, to start identifying and implementing energy saving measures. Moreover, such monitoring supports assessing the progress of implemented measures.

Another common feature of energy management systems is that it can help you to establishing the system parameters for an efficient energy use. For example, if the building or a room is empty it can set down the temperature in order to save energy. Such changes can be done by preprogramed settings (for example, from 9-10 no ventilation is needed), or by sensing real time.
Energy management system are a great support tool for working with energy efficiency, for this reason these two share similar benefits.

The benefits of an effective implementation of the Energy Management System include:

- Reduce operation cost and improve its efficiency
- Save resources and reduce emissions
- The ability to analyse and visualize energy related data
- The ability to quickly diagnose faults and defining its causes
- Increased employee awareness in the field of reducing energy use
- Systematic approach to energy related issues
- Increasing the comfort of staying indoors.

An energy management system can be as simple as keeping an excel sheet, and adjusting your energy parameters by hand and maintain it through eco behavior of staff and customer. Today however, it is possible to install sensors that are linked to software system that allow a more precise reading and adjustment of the system even in real time.

# SENSORS AND THE INTERNET OF THINGS (IOT)

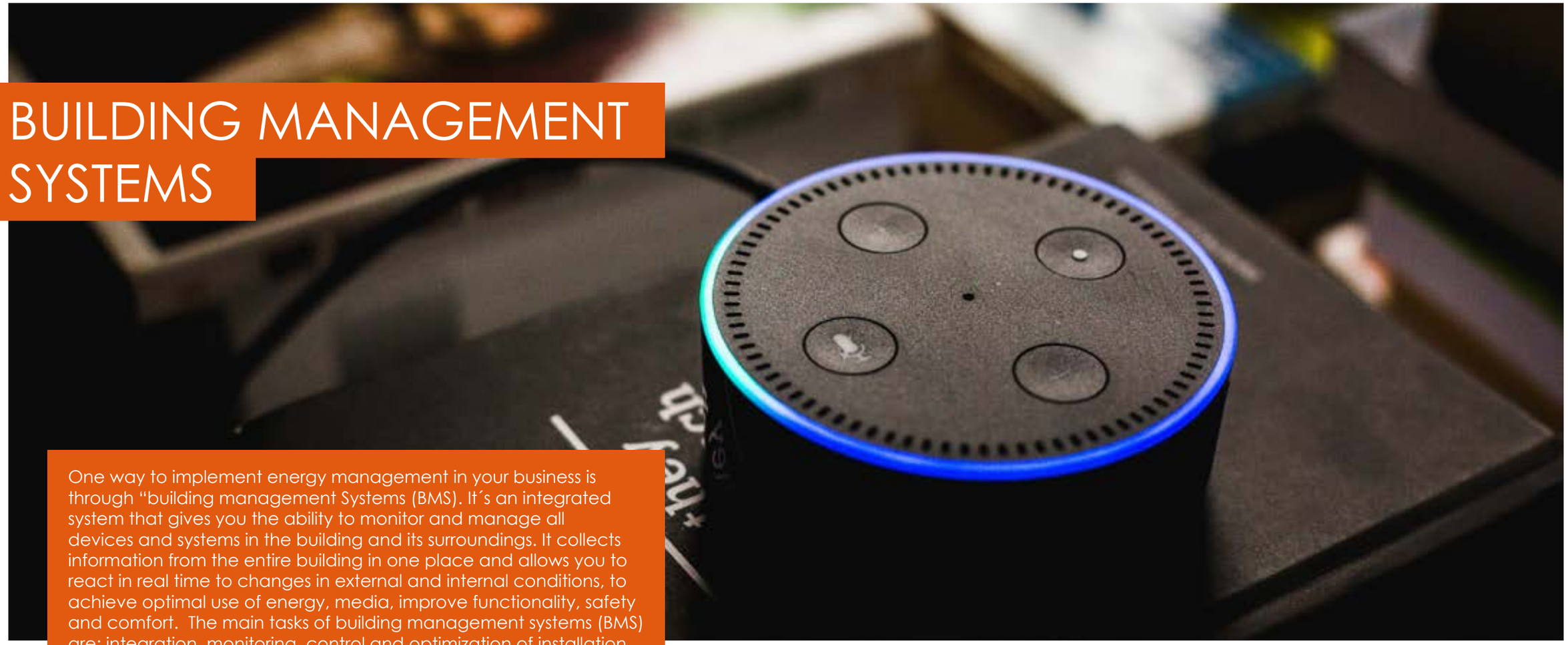

According to Forbes, The internet of things (IoT) is the concept of basically connecting any device with an on and off switch to the Internet and/or to each other. This includes everything from cellphones, coffee makers, washing machines, headphones, lamps, wearable devices and almost anything else you can think of. Such connection allows objects to be sensed or controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit in addition to reduced human intervention IoT can be used also for the energy management.

The IoT will be a key support tool for working with energy consumption and production. On the consumption side, IoT is used to manage energy efficiency. Sensor are used to monitor energy use and other parameters, for example: indoor/ outdoor temperature, or whether a room is full or empty. Such sensors are connected to a software that allows monitoring and steering capacity over the situation

For example, sensors can help to gather data to inform how much heat or cooling needed in a room, by comparing the outside to the inside temperature or simply by sensing the amount of people in a room; In a cold winter day a room full of people needs less heating than a room with only one person.

On the production side, IoT has a good potential to integrate micro-producers and prosumers into the energy grid, i.e., selling the surplus energy production to the grid at an adequate time (see producing your own energy). The real time data gathered by the IoT permits balancing the energy production and demand, that ensures that the grid is not overloaded and the energy is distributed to where it is needed.

# BUILDING MANAGEMENT SYSTEMS



One way to implement energy management in your business is through "building management Systems (BMS). It´s an integrated system that gives you the ability to monitor and manage all devices and systems in the building and its surroundings. It collects information from the entire building in one place and allows you to react in real time to changes in external and internal conditions, to achieve optimal use of energy, media, improve functionality, safety and comfort. The main tasks of building management systems (BMS) are: integration, monitoring, control and optimization of installation and technical equipment in buildings.

Moreover, BMS allows the integration of elements made in various standards (EIB / KNX, LonWorks, BACnet) into one system, which allows to you create a system that best suits your needs.

Such systems are often modular and allows to expand the installation, or implement it in stages. For example, it can be first adapted only to a part of the facility and then in some stages to the whole building.

It may also allow the steering of different elements of the system, at will or by pre-programed parameters. For example, if some lights have a failure the specific segment can be turned off remotely, or when a guest leaves the run all lights turn off.

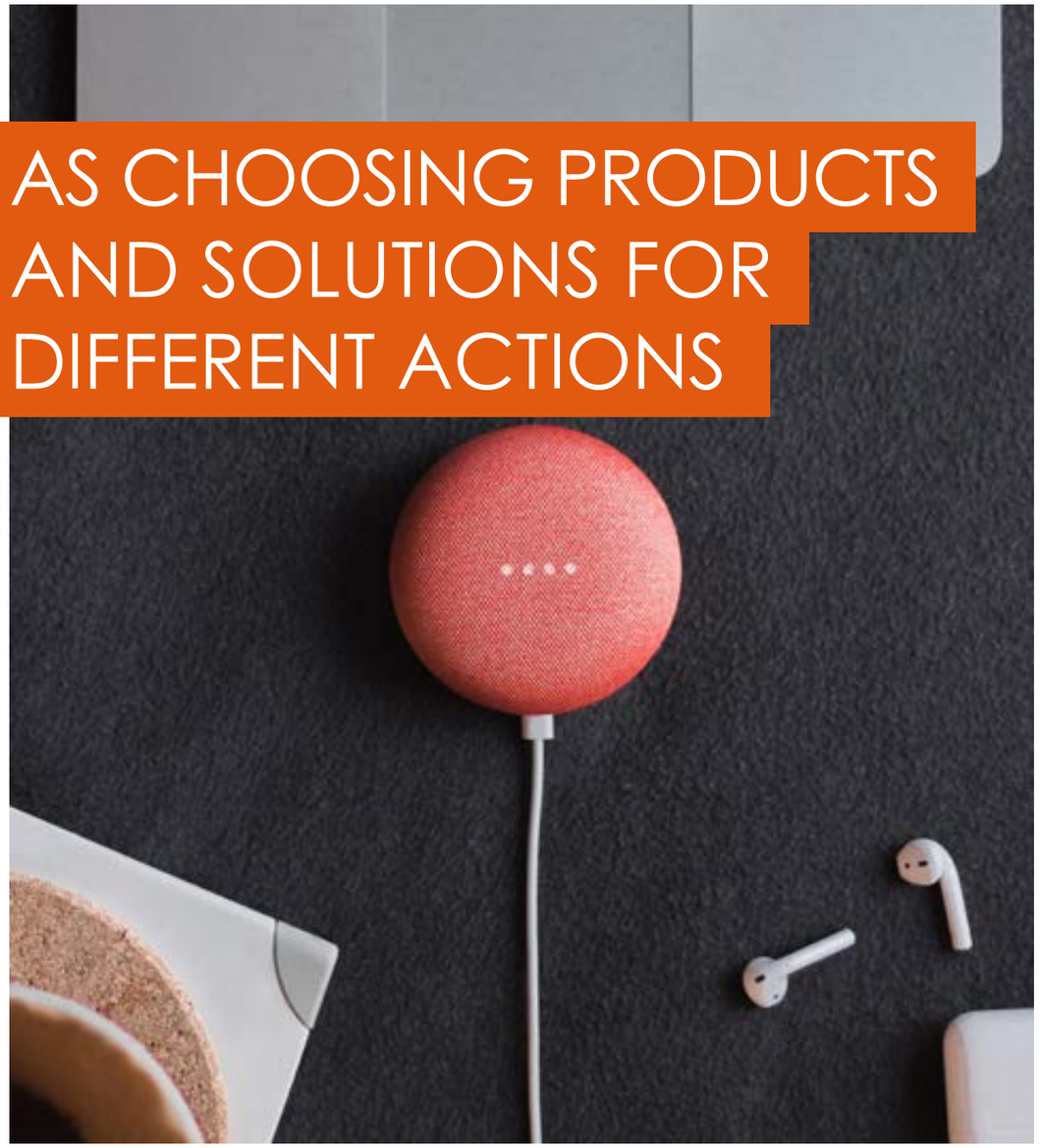
**BMS systems perform the functions of:**

- control of
  - internal and external lighting
  - room heating
  - control of ventilation
  - air conditioning
  - filtration
  - alarm and monitoring systems
- UPS power control systems
- fire smoke control system, control and monitoring of fire dampers
- integration of other automation systems in the building.

There are a number of platforms and solutions provided. Such system can allow great control and granularity over the system although the interface may look very technical. A number of companies are working to offer packages and interfaces that are user friendly, from big companies like Electric Schneider (https://www.schneider-electric.com/en/product-subcategory/1210-building-management-systems/?parent-category-id=1200). (https://raybased.com/en/) to small entrepreneurial companies. Watty is a company that is focused on user friendly management systems through the installation of one device and following different devices through electric current picks (https://watty.io/) instead of having a multiplicity of sensors. Depending on the size of your business and level of control require you might prefer one platform over the other.

# FROM PLANNING TO IMPLEMENTING

# AS CHOOSING PRODUCTS AND SOLUTIONS FOR DIFFERENT ACTIONS



Energy related changes made within the company should be carried out by having the long term comsumption in mind, so it will be as energy- and cost-effective as possible. To achieve this, long-term energy planning is required. When choosing a product or solution, it is important not only to look at the purchase price, but also to consider operating costs when comparing different options. Another important aspect is also to review the ability to use new technologies or ask suppliers what solutions they would suggest for your problem. Perhaps they can contribute with innovative solutions for your particular business.

# CALCULATE PROFITABILITY

Payoff time usually economists call the time it takes from action to repayment of the investment. Generally, one usually strives for as short a pay-off time as possible and the absolute maximum for a real estate economist is usually when the pay off time is as long or longer as the time needed for refurbishments and measures in the building.

**Sometimes suppliers have the tools to help**

One example is that several companies that manufacture and sell insulation materials have calculation programs on their websites. There you can make an overview of the amount of energy and costs that can be saved, for example, for additional insulation of a building.

The more detailed and accurate information available about the existing building and the geographical conditions - the safer also results from the energy calculations.

By calculating the amount of energy that can be saved, for example, by insulation and then asking for a pricing of work and materials, it is possible to calculate how long it takes before the action is paid!

# COST ANALYSIS (LCC)

Cost analysis is a method of calculating the total cost of a product including purchase cost, operating cost, maintenance cost, environmental taxes, possible subsidies and settlement costs. LCC can show that qualitative products that seem expensive at the time of purchase can pay off in the long run. A clear example is the difference between a house built to save energy when living in the house and a regular house. The energy-efficient house can be more expensive to build, but after a number of years, the additional cost has been earned due to lower energy costs. There are many examples, the most common thing is that white goods and lamps that are more expensive in purchasing can pay off in the long run, thanks to lower energy consumption.

In Sweden, the procurement authority has developed a general tool for LCC calculations that can be used both for estimating costs. LCC calculations help you as a customer to choose the most energy-efficient and cost-effective solutions. The procurement authority's calculation models have been developed for some product areas where standardized industry data is readily available and there is a clear economic and environmental potential for LCC to demand products with cheaper operation. For example, it is good to make LCC calculations when installing new lighting to get a good picture of installation, operating and maintenance costs throughout the life of the lamp.

**The procurement authority in Sweden has the following LCC calculations:**

- General calculation
- Indoor lighting
- External lighting
- Cars
- Kitchens - fridge and freezer
- Vending machines and coffee machines
- Appliances

# IMPLEMENTING. EXCERCISE

In this stage actions regarding to each plan will be implemented. Your energy plan describes how your company will work with different actions related to production, distribution and use of energy. Now it is time to implement the measures and turn in to action. Distribute responsibility for the various actions and determine how you can follow up the results.

You can use table. 6.1 as a template when you are developing your action plan. The number of actions is depending to how big the plan is and if all areas for actions are relevant for your business. Timeline can be the same as timeline in planning in the best case.

**Table. 6.1. Action plan for the energy & transports**

| Actions related to energy supply | | | | | | | |
|---|---|---|---|---|---|---|---|
| Action | Timeline | Responsible | Share of renewable energy before the action | Share of renewable energy after the action | Increased share of renewable energy supply (%) | Investment | Annual saving or benefit |
| Example: Installing a geothermal plant for heating and cooling | 2019 | CEO | 0 % | 60 % | 60 % | X Euro | X Euro |
| Action 1 | | | | | | | |
| Action 2 | | | | | | | |
| Action 3 | | | | | | | |

| Actions related to production of renewable energy | | | | | | | |
|---|---|---|---|---|---|---|---|
| Action | Timeline | Responsible | Energy from selfproduction before the action | Energy from selfproduction after the action | Increased production of renewable energy (kWh/year) | Investment | Annual saving or benefit |
| Example: Installing PV-cells | 2018 | Caretaker | 60% | 80% | X kWh/year | X Euro | X Euro |
| Action 1 | | | | | | | |
| Action 2 | | | | | | | |
| Action 3 | | | | | | | |

| Actions related to travel and transportation | | | | | | | |
|---|---|---|---|---|---|---|---|
| Action | Timeline | Responsible | Emissions of CO2 before action | Emissions of CO2 after action | Increased share of renewables/ Decreased amount of km by car | Investment | Annual saving or benefit |
| Action 1 | | | | | | | |
| Action 2 | | | | | | | |
| Action 3 | | | | | | | |

| Actions related to energy management | | | | | | | |
|---|---|---|---|---|---|---|---|
| Action | Timeline | Responsible | Energy use before action | Energy use after action | Reduced energy consumption | Investment | Annual saving or benefit |
| Action 1 | | | | | | | |
| Action 2 | | | | | | | |
| Action 3 | | | | | | | |

In case study 9.1 you can see an example of an camping that made an energy survey and got suggestions of different measures.

# CHECKING

Keep following you progress so you can verify the effect of current actions, as well as identify any implementation challenges or adjustments as they become required. Following up data can be supported by an energy management system, that will not only help to follow up the implementations and its return on investment, as well as it helps with maintenance and making adjustment to improve your business efficiency as require

# FINANCING

This chapter provide current sources for financing and support in relation to energy efficiency and the implementation of renewable energy systems within Lithuania, Sweden and Poland. Remember that such programs and values will change over time. Such projects also describe more general support, and each specific regional support were not mapped here (v.g municipal grants and programs)  however they might exist and may be of help, remember to check in with your local experts!

# FINANCING IN LITHUANIA

**Lithuanian Environmental Investment Fund (LEIF)**

The Lithuanian Environmental Investment Fund (LEIF) was established by the Ministry of Environment in 1996. The main goal of the LEIF is to support public and private sectors in realization of environmental projects and projects to reduce the negative impact of economic activities on environment in compliance with the Environmental Strategy of the Republic of Lithuania.

The Fund supports investment projects in the areas of Energy Efficiency, Renewable Energy and Climate Change in the form of soft loans and subsidies. LEIF grants per applicant can not exceed more than EUR 200 000 over a period of three years. Fund can provide subsidy max. up to 80% of the investment costs of each project. Renewable energy as well as energy efficiency technologies are eligible to benefit from the LEIF support. There are biggest allowed expenses including spare materials and installation set for each technology. Some of them are presented in the table 8.1 (excluding VAT).

Table 8.1. Overview of funding possibilities in LEIF

| Technology, equipment | Units | Max expenses, Eur |
|---|---|---|
| **Renewable Energy** | | |
| Solar collector system | m2 (total area) | 435-525 |
| Biomass pellets boiler with infrastructure | kW (nominal) | 145 |
| Heat pump "ground-water" system | kW (nominal) | 840 |
| Heat pump "water-water" system | kW (nominal) | 840 |
| Heat pump "air-water" system | kW (nominal) | 525 |
| Heat pump "air-water" system | kW (nominal) | 380 |
| Wind turbine, horizontal axle, grid | kW | 2465 |
| Wind turbine, horizontal axle, battery | kW | 2090 |
| Wind turbine, vertical axle, grid | kW | 1855 |
| Wind turbine, vertical axle, battery | kW | 1655 |
| Solar photovoltaic system, grid | kW | 2175 |
| Solar photovoltaic system, battery | kW | 1945 |
| Hydro power | kW | 678 |
| **Energy Efficiency** | | |
| Roof insulation, not changing surface | m2 | 14,50 |
| Roof insulation, changing surface | m2 | 43,50 |
| Ceiling insulation | m2 | 14,50 |
| Floor insulation | m2 | 29 |
| Wall insulation | m2 | 30 |
| Windows | m2 | 128 |
| Doors | m2 | 261 |
| Biomass boiler with infrastructure | kW (nominal) | 87 |
| Tabular heat exchanger | 100 m3/h | 1160 |
| Rotational heat exchanger | 100 m3/h | 1450 |
| Small scale CHP with gas internal combustion engine | kW electrical | 796 |
| Energy certification of building | building | 145 |

More information on financial support from the Lithuanian Environmental Investment Fund can be found on the official website http://www.laaif.lt.

# INVESTMENT AND BUSINESS GUARANTIES (INVEGA)

The guarantee institution UAB "Investiciju ir verslo garantijos" (INVEGA) was established by the Government to support Small and Medium-sized Business Development in 2001. INVEGA manages financial instruments designed to help with starting up or expanding a small or medium-sized business, i.e. soft loans, loan guarantees, interest rate subsidies, and support for the first job.

Partial financing of interest allows small and medium-sized enterprises companies that receive financial support in the form of non-repayable subsidies to reduce their burden of obtaining financing, cut costs and plan business development with more ease. 50-95 percent of the interest actually paid can be compensated up to 36 months.

Consultancy expenses of the micro, small and medium-sized businesses are also eligible to be covered by INVEGA Consultation Services Reimbursement program.

In the frame of Eco Consultant LT service up to EUR 4,000 of costs of consultation on more efficient use of resources and conservation of natural resources can be covered (intensity 85%). At the same time up to EUR 2,000 of the costs of business consultations over a period of 6 months (intensity 65-85%) can be reimbursed in the frame of Business Consultant LT service.
More information on financial support from the guarantee institution INVEGA can be found on the official website http://invega.lt.
Additionally, it must be mentioned, that European Union is providing financial assistance to Lithuania through variety of funds, such as Cohesion fund or LIFE Programme, which in some cases can be used for implementation of the CE activities and improvements. More information on these financial tools can be found on the official site of the Ministry of Environment http://www.am.lt.

# FINANCING IN SWEDEN

Within Sweden there a few main actors providing financial support to renewable energy and energy efficiency. They are the national energy agency (with support of the regional offices); the county administrative board and the National Agency of agriculture.

Some of the grant programmes provide support the installation of renewable energy technology, while others support the research and testing of new solutions. In addition, the development agency Vinnova has a programme oriented to circular economy. The main programmes are describe below. Please also note that there might be other funding opportunities at the regional and municipality level.

**The main support programs described here are:**

1. Grant to Solar panels
2. Climate Jump
3. Support for energy monitoring in small and medium-sized enterprises
4. In-depth support for energy efficiency
5. Electricity certificate
6. Support from the Rural Development Program
7. Support for production of biogas
8. The wind power network (Nätverk för vindbruk)
9. Energy efficiency and energy crops
10. Vinnova Cirkular and/or biobased economy

Other support

11. Business Development Support
12. Support for research and innovation projects
13. Support for Energy Storage (Private Person)
14. Advice and other support
15. Incentives for energy efficiency

You can see an overview showing the different grants/support in table 8.2.

Table 8.2 Financing – opportunities to apply for support in the energy field

| Function | Support | Who can apply | Application submited to: | Max amount | % of support given in relation to total cost |
|---|---|---|---|---|---|
| **Solar Energy** | Grant to Solar panels | Business, private persons and municipalities | The county administrative board | 1,2 miljoner SEK per PV-cell system or solar power- and solheating hybride system. | 30 % |
| Energy storage | Support for energy storage | Private persons | The county administrative board | 50 000 SEK | Max 60 % |
| Transitioning from fossil fuels to renewables | Climate Jump, good for activities related to buildings and transport | Business, public actors and other organizations | The county administrative board | Max. 2 miljoner SEK within 3 years | Max 70 % |
| Energy efficiency mapping | Support for energy mapping in SME | Small and medium enterprises | Energy Agency for Southeast Sweden | Max. 50 000 SEK | Max 50 % |
| Energy efficiency | Deepening support for mapping and efficiency in SME's | Small and medium enterprises | Energy Agency for Southeast Sweden | | Max 70 % |
| Selling energy surplus | Electricity certificate | | National Energy Agency | | |
| Innovation development of circular and biobased solutions | Circular and biobased economy | Research institutions, business, municipalities and other organizations | Vinnova | It varies according to the particular program under this banner | It varies |

**1. Grant to Solar panels**
There is a state support for the installation of solar cells. The support can be given to companies, individuals and municipalities as a one-off payment for the installation of all types of network-connected solar cell systems. The amount for the grant is calculated on the whole solar installation, design, materials and work. The eligible costs may amount to a maximum of SEK 37,000 plus VAT per installed kilowatt. For soles or solar heating systems, eligible costs may amount to no more than SEK 90,000 plus VAT per installed kilowatts. The aid applies to actions implemented by 31 December 2020 at the latest.
You can get a grant for a solar system per building or for a system per property if it is built on the ground. It is not possible to combine the contribution with "ROT" deductions for the same action.

Links:
https://www.lansstyrelsen.se/blekinge/stat-och-kommun/miljo/energi-och-klimat/stod-till-solcellsanlaggning.html
http://www.energimyndigheten.se/fornybart/solenergi/solceller/stod-till-solceller/investeringsstod/

**2. Climate Jump**
Money from this grant should go to climate investments at local level, for example at a company. The contribution is focused on measures that reduce greenhouse gas emissions. This means measures where you replace fossil fuels like oil and natural gas in buildings, processes or in transport. For example, it is possible to apply for subsidies to build charging stations for electric vehicles, biogas plants, switching from fossil oil or natural gas to other sources of energy for heating and more and for communication projects. You can´t receive contributions for a single action if the pay off period is < 5 years

Links:
https://www.lansstyrelsen.se/blekinge/stat-och-kommun/miljo/energi-och-klimat/klimatinvesteringsstod.html

Information about application
http://www.naturvardsverket.se/klimatklivet

**3. Support for energy monitoring in small and medium-sized enterprises**
Does your company want to work more efficiently with your energy use and reduce the cost of energy consumption? An energy survey is then the first step, and companies can get financial support to implement it. Contact the Energy agency for southeast Sweden for assistance on the road from application to completed energy survey.
An energy survey shows how much energy is supplied annually and used to drive the company's operations. It shows how energy is distributed in operations and costs.
The energy survey provides suggestions for measures that can save energy. The proposals can be investment in new equipment, but also new working methods and procedures.

Links:
http://www.energimyndigheten.se/nrp/stod-for-energikartlaggning-i-sma-och-medelstora-foretag/
http://www.energikontorsydost.se/bidrag-till-energikartlaggning

**4. In-depth support for energy efficiency**
They offer financial support for companies, for example, implementing energy-efficient measures, developing their organization or promoting the development of new processes, new technologies or testing of this. The support is aimed at all small and medium-sized companies. It will contribute to increased opportunities for companies to streamline their energy use.
Small and medium-sized companies that have carried out an energy survey, or an equivalent assessment of energy use in their operations, may apply for the support.

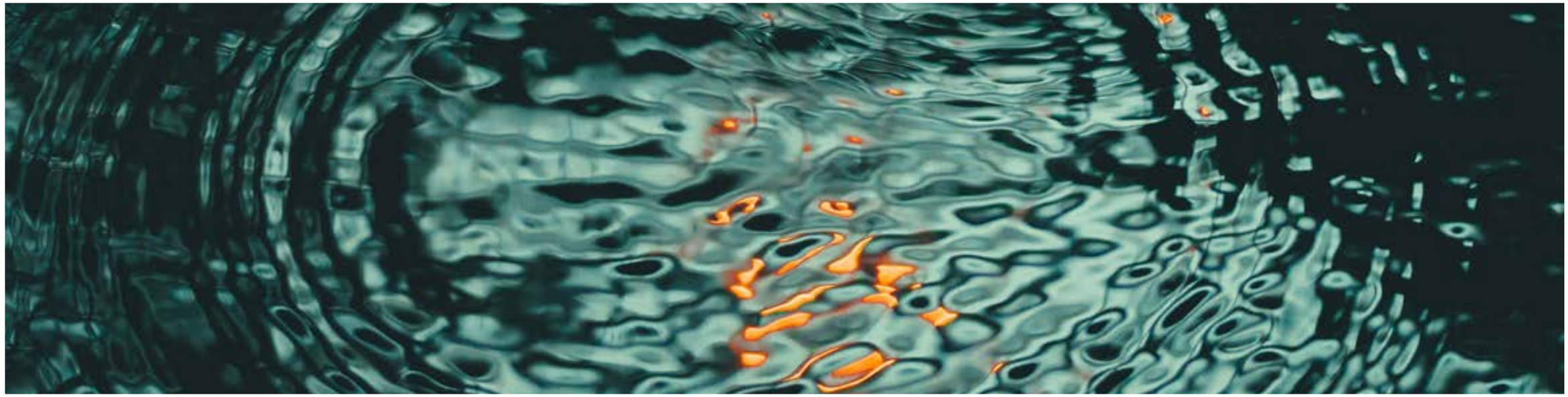
Link:
http://www.energimyndigheten.se/nrp/teknikutveckling-och-innovation--fordjupande-stod-inom-energieffektivisering/

**5. Electricity certificate**
Electricity certificate is a financial support for renewable energy producers. For each produced megawatt hour (MWh) renewable electricity, the producer receives an electricity certificate. The electricity certificates are sold in an open market, thus providing additional revenue to renewable electricity generation, in addition to the usual electricity sales. The energy sources entitled to be awarded electrical certificates are wind power, some hydropower, some biofuels, solar energy, geothermal energy, wave energy and turf in combined heat and power plants. An electricity certificate is awarded to a manufacturer who has produced and measured a megawatt electricity in an approved facility.
Link:
http://www.energimyndigheten.se/fornybart/elcertifikatsystemet/

**6. Support from the Rural Development Program**
If you have a climate-smart idea that you want to develop or test, you can apply for project support from the Rural Program. You can, for example, receive project support for projects that increase the production and use of renewable energy, and to projects that reduce the climate impact of agriculture or facilitate agriculture's adaptation to a changing climate. The aid can be applied via Blekinge County Administrative Board.
Link:
http://www.jordbruksverket.se/amnesomraden/stod/stodilandsbygdsprogrammet/investeringar/fornybarenergi.4.6ae223614dda2c3dbc44f7d.html

**7. Support for the production of biogas**
The purpose of the grant is to increase the supply and use of renewable energy. The investment will lead to reduced greenhouse gas and ammonia emissions.
Investment support can be sought for actions involving investment in biogas production plants, such as biogas, upgrades, stock deposits and pipelines.
The contribution is included in the rural program. Companies can receive support with 40% of the cost of the investment.
Links:
http://www.jordbruksverket.se/amnesomraden/stod/andrastod/godselgasstod/beskrivningavstodet.4.5027191e14d8eb30892e7b68.html
http://www.jordbruksverket.se/amnesomraden/stod/andrastod/biogasstod2018.4.3ed012e7163ab843f5e5557.html

**8. The wind power network (Nätverk för vindbruk)**
The network for wind farms is intended to increase knowledge of wind power and to promote a well-established and well-located expansion of wind power, which also generates added value locally. On behalf of the government, the network for wind farms has been supporting regional initiatives since 2008, with experience from which the whole country can then benefit. This is done by announcing project funding each year. The wind power network is operated by the Swedish Energy Agency in cooperation with four regional nodes.
Link:
https://www.natverketforvindbruk.se/sv/



**9. Energy efficiency and energy crops**
Do you want to streamline energy use in your agricultural or gardening business? Then you can apply for support for different investments.
Corporate support for investments in energy efficiency and energy crops in agriculture and gardens is available to facilitate investments in, for example, energy-efficient lighting and ventilation, shadow weave, heat exchangers, or energy crops with fencing around planting.
Link:
https://www.lansstyrelsen.se/blekinge/foretag/lantbruk-och-djur/stod-till-jordbruksforetagare/energieffektivisering-och-energigrodor.html

**10. Vinnova Circular and bio-based economy (CBE)**
Vinnova aims to strengthen Swedish innovation in circular and bio-based economics, CBE, such as recycling, sharing and bio-based materials. In addition, a comprehensive policy work is needed to change a strongly rooted consumption model. They look for both small entrepreneurs and innovators who together want to change a whole industry from within. If you have a project idea that contributes to this, you can get funding from Vinnova. Vinnova finances several initiatives where research institutes, companies, municipalities and other organizations together develop sustainable business models and new technical solutions.
The funds directed to this are: SEK 500 million between 2015 and 2020. There are different programs under the CBE. The total amount that projects and actors can apply, as well as the co-financing required varies depending on the program it relates to.
There are therefore many examples to highlight among the projects previously funded by Vinnova. Link: https://www.vinnova.se/m/cirkular-biobaserad-ekonomi/

Other support

**11. Business Development Support**
The Energy Agency helps innovative companies in environmental and energy engineering to take new products and services to the market. The purpose of the Energy Agency's support is to speed up companies to grow and thus achieve a faster dissemination of innovations in the energy field than would otherwise be possible. The Energy Agency supports companies until innovation has reached such a degree of maturity that private actors are prepared to enter into funding and drive continued development.
http://www.energimyndigheten.se/forskning-och-innovation/affarsutveckling-och-kommersialisering/

**12. Support for research and innovation projects**
The Energy Agency supports research and development for new knowledge about the supply, conversion, distribution and use of energy. Support is also provided for pilot and demonstration facilities where new technology is being tested. However it is necessary to have a research institution as work partner.
http://www.energimyndigheten.se/forskning-och-innovation/forskning/demonstrationsprojekt/

**13. Support for Energy Storage (Private Person)**

The contribution can be sought by private individuals who wish to store their own electricity. The contribution will make it easier for individuals to benefit from their solar systems.

In order to receive the contribution, the energy storage system must be connected to a self-production facility of renewable electricity that is connected to the electricity grid. The contribution will help to save electricity for use at a time other than the production stage and to increase the annual share of self-produced electricity to meet its own electricity needs. Eligible costs are costs for installing electricity storage systems, such as battery, cabling, control systems, smart energy hubs and work.

It is not possible to combine the contribution with other public support, such as ROT deductions, for the same action.

http://www.energimyndigheten.se/nyhetsarkiv/2016/oppet-att-soka-stod-for-energilagring-i-hemmet/

**14. Advice and other support**

a) Find your energy and climate adviser

Energy and climate advice is a free service from your municipality. The counselor will help you with tips for getting more energy and it will help you get an overview of the different options you have to choose from.

b) Regional Energy Agency

Want your business to get started and energy efficiency? Do you have any questions about our support? Would you like assistance in seeking support? Contact the energy agency in your region.

c) Enterprise Network for Energy Efficiency

Enterprise Network for Energy Efficiency

Throughout the country, companies are working on energy efficiency by participating in regional corporate networks. The project will help SMEs to streamline their energy use by 15 percent over a four-year period.

d) the Groups

We have several order groups and networks. They serve as a platform for cooperation between industry actors and the state in order to reduce energy use in buildings.

http://www.energimyndigheten.se/energieffektivisering/jag-vill-energieffektivisera-min-organisation/ekonomiska-stod-och-metodstod2/radgivning/

**15. Incentives for energy efficiency**

How can more companies save energy in an easier way? Through the project incentives for energy efficiency, the already existing environmental supervision in SMEs is combined with energy efficiency. It saves time while more companies can be reached. The companies that are subject to environmental supervision already have visits by supervisors today but now these staff can also help with the companies' energy efficiency.

# FINANCING IN POLAND

In Poland it is difficult to point out to different funding programs and grants because the situation changes every year. In general funds for projects can be applied to various government institutions, both on the national and regional level. We point some of these organization below

**Institutions on the national level:**

**1. National Fund for Environmental Protection and Water Management** (NFEP&WM) which was established in 1989 as a result of the regime transformation in Poland, in cooperation with voivodeship funds for environmental protection and water management is the pillar of the Polish system of financing environmental protection. The basis of the National Fund's operation as a State legal person is the Act on Environmental Protection Law.
Link: https://www.nfosigw.gov.pl/en/

Quite interesting programme for the company form tourism sector is the LIFE programme. The LIFE programme is the only financial instrument the European Union devoted exclusively to co-financing projects in the field of protection and improvement of the environment and human impact on climate and adaptation to its changes. Its main purpose is to support the process of implementing Community environmental law, the implementation of EU policy in this area, as well as the identification and promotion of new solutions for environmental problems in nature.

The LIFE programme – action programme for the environment and climate change (2014-2020) was established by Regulation of the European Parliament and of the Council (EU) on 11 December 2013. The implementation of the programme was divided into two periods, within which the so-called Multiannual Work Programmes will be adopted, used by the EC to define the implementation framework of LIFE in a given period.

The LIFE programme is managed by the European Commission, which every year publishes a call for proposals (call for proposals). Everyone registered in the European Union (public entities, as well as private, commercial, and non-commercial ones) may be a beneficiary of the LIFE programme. The total budget of the

LIFE Programme for the period 2014-2020 is EUR 3 456 million including measures for the environment – EUR 2 592 million and for climate – EUR 864 million. The budget for financing projects in the 2014-2017 financial perspective is EUR 1 347 million in the framework of the sub-programme for Environment, and EUR 449 million for the sub-programme for Climate Action.
Standard LIFE project funding by the European Commission amounts to up to 60% of eligible costs, and, in the case of projects for priority habitats and species – up to 75%. Polish Applicants may also apply for co-financing of the project with NFEP&WM national measures complementing the finances of the project up to 95% of eligible costs. (EC co-funding, NFEP&WM co-funding)
Link to more information: http://nfosigw.gov.pl/en/life-program/general-information/

**2. The National Centre for Research and Development** - is the implementing agency of the Minister of Science and Higher Education. It was appointed in the summer 2007 as an entity in charge of the performance of the tasks within the area of national science, science and technology and innovation policies. When if was founded, it was the first entity of this type, created as the platform of an effective dialogue between the scientific and business communities.

The topics of differentia programme interested for company form tourism sector can be find on the web page: http://www.ncbr.gov.pl/en/about-the-centre/

An interesting program for truism sector is INNOTECH:

INNOTECH is a programme whose aim is to help research entities and businesses carry out innovative projects representing various scientific areas and industrial sectors (In-Tech programme path), with a special focus on advanced technologies (Hi-Tech programme path).

It is addressed to entities involved in research projects and preparatory studies preceding the implementation of research results, whose purpose is to develop and implement innovative technologies, products or services.

INNOTECH has two paths: In-Tech and Hi-Tech, addressed to two different categories of beneficiaries, whose projects are co-funded with different public funding instruments.

Main objectives of the INNOTECH Programme include:

- increase in number of developed and implemented technological innovations,
- increase businesses' spending on scientific research and development valuable from the economic point of view,
- reinforce the cooperation between universities and public research units

In this two Institutions each year appear different programs to applied. Companies from the tourist sector, should follow the announced competitions by the institution above and depending on the needs of companies apply for funds.

**Institutions on the regional level:**

**1. Provincial Fund for Environmental Protection and Water Management** - the same core of interest like a NFEP&WM but in regional scale for one voivodeship. Example for Pomeranian region. https://wfos.gdansk.pl/#about

**2. Marshal Office** - institutions responsible for EU found on regional level. For the SME Company for truism sector it seems to be a very interesting program The Regional Operational Program of the Pomorskie Voivodeship.
Link:
http://www.rpo.pomorskie.eu/skorzystaj

The Regional Operational Program of the Pomorskie Voivodeship for the years 2014-2020 supports a wide variety of areas and types of projects, which were defined in the text of the program itself and in the Detailed Description of the Priority Axes (see more details in table 8.3.

8.3 Priority Axes within the Regional Operational Program:

| Priority Axis | Value in EUR |
|---|---|
| 1. Commercialization of knowledge | € 139 860 877,00 |
| 2. Companies | € 174 647 688,00 |
| 3. Education | € 119 579 843,00 |
| 4. Vocational education | € 68 677 602,00 |
| 5. Employment | € 225 468 821,00 |
| 6. Integration | € 114 306 948,00 |
| 7. Health | € 104 975 500,00 |
| 8. Conversion | € 159 013 250,00 |
| 9. Mobility | € 357 213 312,00 |
| 10. Energy | € 214 951 001,00 |
| 11. Environment | € 120 909 938,00 |
| 12. Technical Support | € 65 206 918,00 |
| All | € 1 864 811 698,00 |

From the point of view of tourism companies and the circular economy, these axis seem particularly interesting:

**Priority Axis 10. ENERGY**

Thanks to EU funds, The Regional Operational Program can invest in:

- increasing the energy efficiency of public and residential buildings,
- production of electricity and heat from renewable energy sources,
- reconstruction or extension of distribution power grids,
- construction or modernization of heat sources and heat supply systems in cities,
- extension of the air monitoring system,
- modernization of outdoor lighting.

**Priority Axis 11. ENVIRONMENT**

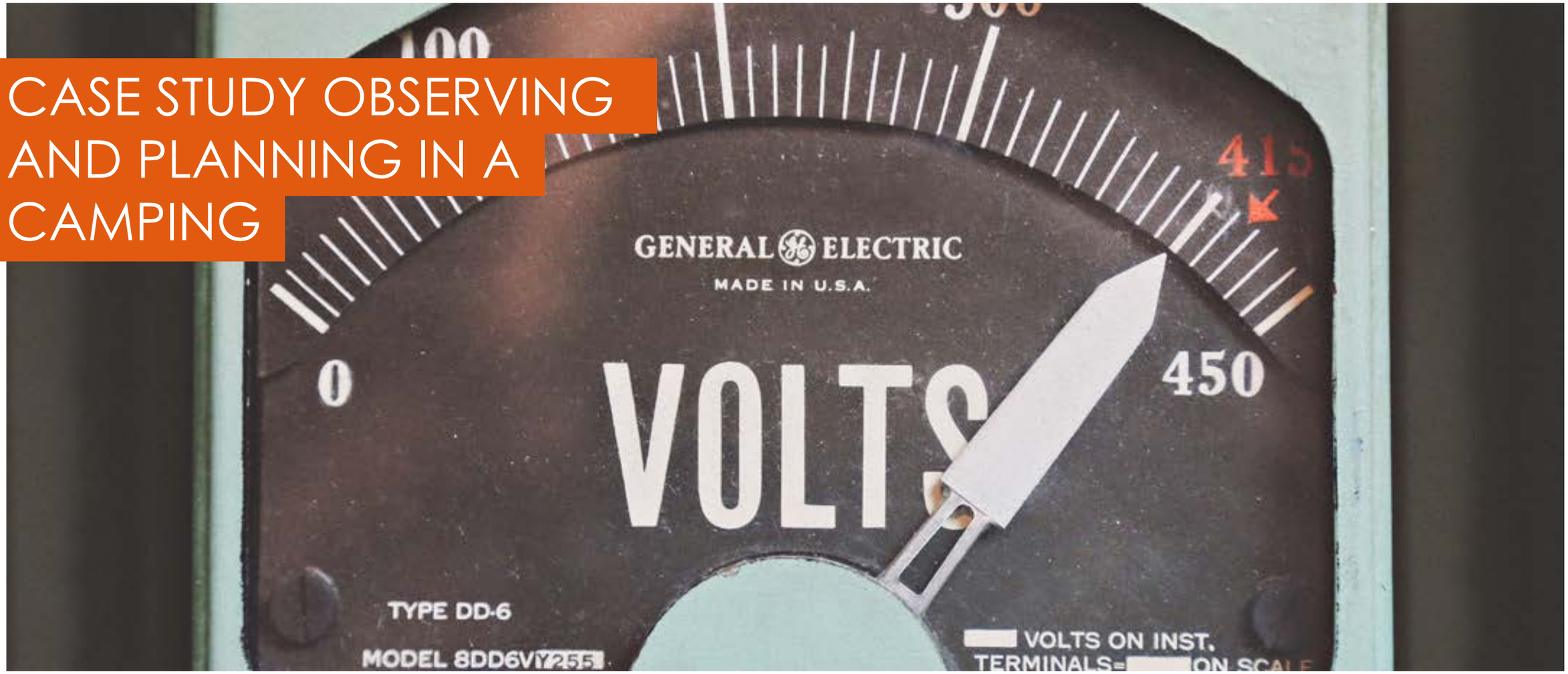
Thanks to EU funds, The Regional Operational Program can invest in:

- counteracting and minimizing the effects of extreme climatic events,
- early response systems in case of catastrophic events,
- projects related to waste management,
- projects in the field of sewage management and water supply,
- protection of nature, especially in protected areas.

Link to more information:
http://www.rpo.pomorskie.eu/na-co-mozna-uzyskac-wsparcie#

# CASE STUDIES ENERGY MODULE

# CASE STUDY OBSERVING AND PLANNING IN A CAMPING




In this case, a camping has started an active energy work by measuring its energy consumption and planning for actions. A few years ago, the campsite was sold to a new owner. The new owner wanted to review the buildings and see what potential there was available to reduce the impact on the environment, save money and to be able to market their energy work.

The owner therefore began to measure the energy use for the campsite and its restaurant. A successful reduction of energy use had been made through some simple measures most related to operating times and behavioral issues. In order to identify what measures needed to save more energy, the owner chose to make an energy analysis together with the regional Energy Agency for Southeast Sweden. The purpose of the energy analysis was to see what potential was available to reduce and optimize energy use. In addition, a rough estimate was made of the amount of energy that can be saved for different actions.

**Background**

The facility is a campsite with hostel and restaurant. It has approximately 6500-night guests via camping and about 5000 via the hostel. The utility area is more than 1400 m2. Total energy consumption is approximately 310 MWh / year in terms of electricity. Most of the buildings are from the 1960s.

**Observing**

In order to monitor the energy use and the measures that may be taken, the owner had begun to measure the energy consumption of the camping. The measurement data available was divided into the campsite and the restaurant.
Electricity consumption for camping / hostels is approximately 245 MWh / year. For restaurant and kitchen, the electricity consumption is 62 MWh / year. Energy use for the camping area corresponds to approximately 13.5% of the total turnover for camping / hostels.
The owner also looked at which energy suppliers for power grids and electricity trading they had agreements with. The purpose was to see if it is possible to save money by switching supplier and if the energy supplier supplies green electricity.

**Status analysis**

The whole property generally holds a rela-

tively low energy standard. The campsite has 5 buildings and their climate screen consists of wood walls, with flat roofs and a floor plan. The buildings have conventional double-glazed windows. The standard of insulation is from the original year of construction. Direct-acting electricity is used for heating. The campsite is located outside district heating areas and can´t be connected to district heating.

**Restaurant / Kitchen:** The restaurant has 2 air / air heat pumps from 2010. These heat the serving section. Built-in freezers and cold rooms are installed without locks. 1 frying table and 2 hot-air ovens are installed in the kitchen.

**Reception / dressing:** The kiosk windows has only single glass. One side has no sun shielding and together with several freezers and low ceilings, this causes great cooling needs during summertime. This has been partially attempted with a portable air cooler connected to exhaust air ventilation. In the space behind there is a bake-off oven installed which also causes a large cooling requirement.

**Conference building and hostel:** A conference room for about 100 people was built in the 1980s. Original surfaces are used for hostels with single / double rooms, common areas and kitchens. The hostel and the conference room have exhaust ventilation without any heat recovery.

**Residential building / garage:** Heating center for this building and the hostel is located here. The production units consist of an air / water heat pump. The heat pump is old and needs to be replaced with a more efficient heat pump.

**Water:** Large amounts of water are used, a total of 1,600 m3. Of this, about 600-700 are estimated to be hot water that is heated in large, electricity water heaters in 4 separate places in each building.

**Electricity:** Electricity is used for all energy-intensive parts such as hot water, heating, and operation of all equipment.

**Lighting:** There is a good awareness of switching off and low energy lamps are used in part, fluorescent lamps are older, there are no presence detectors that control lighting. The parking lights out in the camping area consist of older type of mercury. For phase lighting, low energy lamps are used. For lighting there is a very large potential for improvement and sectioning.

**Heating:** Electricity is used for heating, radiators 40-60 MWh/year, hot water 70 - 100 MWh/year and camping vans 50 MWh/year.

**Ventilation:** All rooms are ventilated by conventional exhaust ventilation without heat recovery. Some units are partially out of order. The company should make an analysis of future needs and operations and how heat recovery can be implemented in a good way.

**Cooling:** For cooling the restaurant there is cooling in the form of 2 air / air heat pumps. The kiosk has several heat-producing machines, such as freezers, refrigerators and a bake-off oven. We suggest that exhaust ventilation should be installed in the kiosk roof with forced ventilation during the hot season. Other times, this ventilation should be sealed.

**Other:** Control and monitoring systems are of older model and have no centralized functions.

**Proposal for measures**

After reviewing the business, we have prepared action proposals. Hot water production accounts for the greatest energy consumption, but heating should also be prioritized.

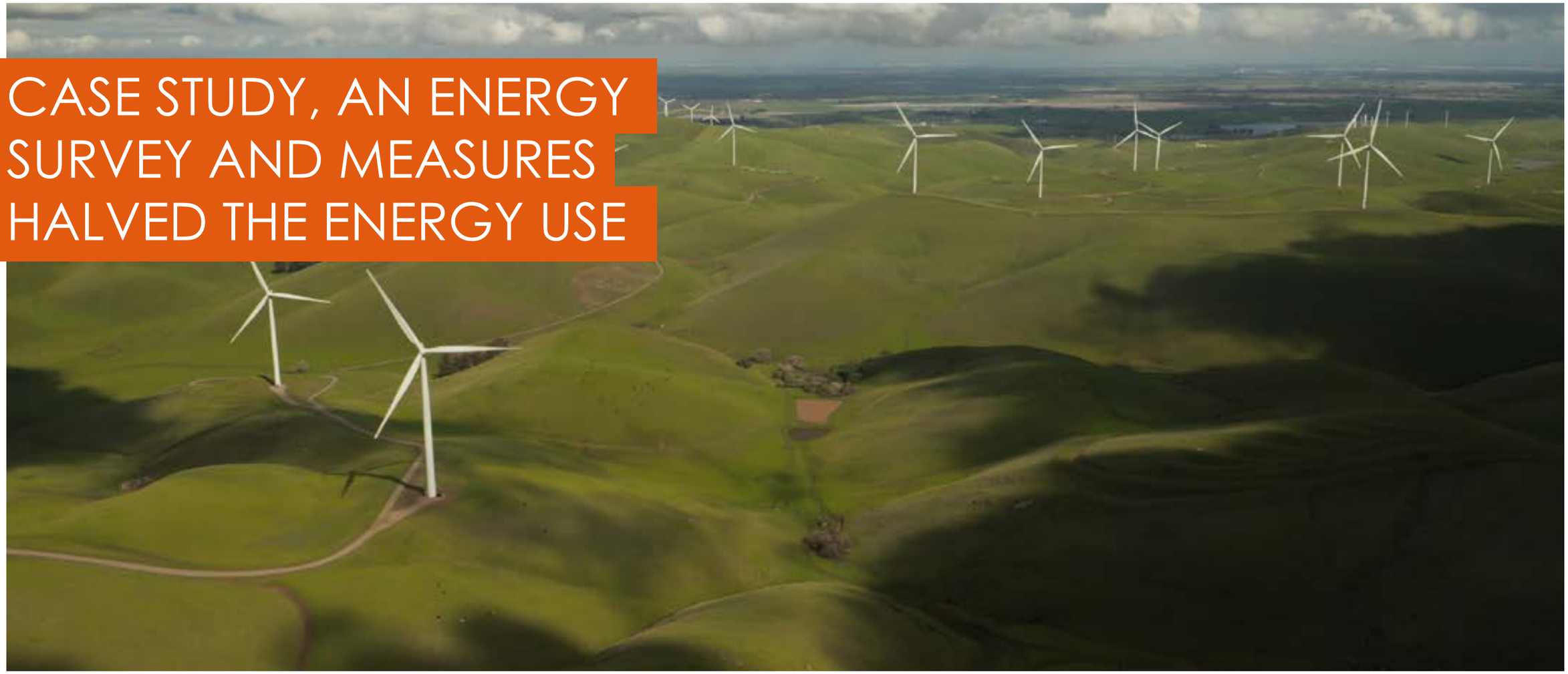
- Continue to allow energy and environmental issues to be a natural part of the organization. Further educate all staff in these areas and take advantage of their presence in finding energy-saving measures. Observe the energy aspects of operating instructions. Introduce premium schemes to encourage staff in energy saving measures. At internal meetings, have this as a separate item on the agenda. Possible savings potential 5-10% of current energy use.
- Consider energy-efficient solutions for new investments and rebuilding, such as energy efficient windows, additional insulation of ceilings and energy efficient doors.

- Water heating with electricity should be replaced by solar heat and / or pellets.
- Existing heat pump for heating / hot water is replaced with a new heat pump or with a pellet-fired boiler. Connect kitchen / restaurant with a culvert to achieve even higher savings effects. If the activities are expanded in these buildings even in winter, the savings effects will increase even more.
- Heating system optimized through adjustment, adaptation control equipment, etc. partly centralized but also in the respective rooms. Make it possible to lower the temperature in every wing in the conference- and hostel building at low occupancy. Only when one wing is fully loaded will the next in, etc. be connected. The conference room is made accordingly.
- Ventilation is adapted via two-speed or frequency control to reduced air change in autumn, winter and spring. Otherwise, optimizations are made for operation, damper, etc. A summary should be made of existing ventilation systems with airflows, operating hours, function.
- Energy-efficient lighting with presence control, light ceilings and sectioning. Use HF lamps. Switch to more energy efficient lamps. Replace outdoor lighting from mercury to high pressure sodium. There is potential to save 10-30% of the energy consumption for lighting.

The energy analysis at the camp site shows that there are many measures that would greatly reduce energy use and costs. Some of the measures require no or a very small investment, others require more extensive investments. Before the company decides on any investments taken, a more detailed study and costs should be taken for the actions that the campsite is interested in.

Comment: I took several years before the camping owner decided to make the measures. But in the winter 2017-2018 almost all the suggested measures were performed. The more detailed study and offers made clear that the measures were profitable investments. Now the camping produces renewable energy from solar panels and have become more energy efficient.

# CASE STUDY, AN ENERGY SURVEY AND MEASURES HALVED THE ENERGY USE



When Carola Nilsson went from being hotel manager to owner of Hotel Hammarstrand, she was increasingly interested in her energy use. A usage that was high, and as an energy survey showed could be reduced by more than half.

Hotel Hammarstrand in Jämtland is a hotel and conference facility that is booked by tourists who want to experience the scenic surroundings during the summer months. The rest of the year is mainly booked by conferences.

Carola Nilsson took over 2015 as owner of the hotel, and as a new owner, she began to go through more numbers, and not least the figures that showed a high energy consumption.

**The Energy Office gave a tip about support for energy survey**

Carola was aware that the business could be energy-mapped, but the thought of the cost of receiving consultants meant that it did not turn off. At least not until the Energy Office of Jämtland and Härjedalen contacted the hotel.

Together with other companies, Hotel Hammarstrand was invited to an information meeting on energy efficiency. At the meeting, they received information about the possibility of seeking support from the Swedish Energy Agency of up to SEK 50,000 to carry out an energy survey.

Carola also realized that all work did not require a consultant, but she could work on energy efficiency with the support of the Energy Agency. So by seeking the support and doing parts of the work itself, costs could be held down. At the same time Carola became more familiar with the subject.

**Possible to halve energy use**

Together with an energy consultant, an energy survey was conducted, resulting in a report with accompanying action proposals. The survey showed that, on average, the hotel had an energy consumption of 412 megawatt hours (MWh) per year. The proposed measures showed a possible saving of 239 MWh per year. Thus, if all measures were to be implemented, energy use could decrease by more than half.


**Work on the measures is ongoing**
Several of the measures proposed have now also been implemented. Half of all single rooms have now got new windows, and the worst windows in the kitchen have been replaced. In all double rooms one of the windows has been replaced. Instead of windows that could not be opened earlier, there is now a window that can be opened and which is also good from an energy point of view. A profit for both guests and energy use.

Parts of the lighting have previously been replaced with LED lighting, but now all lighting has been replaced, which is estimated to save 39 MWh. With an investment of 600 Euro for the new lamps, it is only a repayment period of 2-3 months before the investment is paid.

Work is now underway to install thermostats on elements so that the heat can be maintained at an even level.

The hotel's design also contributed to the high energy consumption. The hotel is a long-term building built in several stages on a sloping plot. At the bottom there is the entrance and reception and on the top is a restaurant. At the entrance the door was often open and, together with the kitchen's powerful fan system, which was placed at the top of the building, a lot of cold air was drawn in when the door was open.

By creating an airlock with double doors in the entrance, the effect of this could be significantly reduced.

**The biggest investment is left to do**
The hotel is currently using an electric boiler for heating, and the energy survey proposals showed that the biggest energy savings can be made by replacing this with a geothermal heating plant. An energy saving of approximately 150 MWh per year.

Installing geothermal heat is, however, a high cost of about 70,000 Euro. An action that Carola hopes will be possible in two to three years.

When she took over the hotel there was a need to carry out many different forms of repairs and there has therefore been a balance between improving for the guests and reducing energy use.
Carola sees that there were other positive aspects of actively participating in the work of energy survey and the measures to energy-efficient.
- It has become easier to explain to the staff, previously I knew the problems but could not always explain to others.

Source: Swedish Energy Agency

# CASE STUDY - RENEWABLE ENERGY: SOLAR CELLS AT QUALITY HOTEL FRIENDS IN SOLNA

The hotel gets some of its electricity needs supplied with green, locally produced electricity for a predictable cost.

Hotelldirektör Björn Callin säger "Vi vill ligga i framkant och arbeta med gröna värden. Vi vill också att våra solceller ska inspirera andra att hänga på. Tillsammans kan vi klä Arenastaden i solceller!"

Quality Hotel Friends installed solar panels on the roof of Solna in 2017. The green electricity from the solar cells will be used directly in the property's operations. This means that the hotel will receive some of its electricity needs with green, locally produced electricity at a foreseeable cost.

Nordic Choice Hotels has always had a great focus on solutions for a more sustainable society and this will be a further step in the continuous work to reduce the environmental impact of the business.

Hotel Director Björn Callin says "We want to be at the forefront and work with green values. We also want our solar cells to inspire others to follow us."

**Facts about the solar system:**

- The plant is 200 sqm and produces about 29 MWh of electricity per year
- On the roof stands 110 silicon panels, saving about 2 tons of carbon dioxide per year

**Shows what the hotel can do with electricity as a marketing**

- What can the hotel do with the green electricity equivalent to 29 MWh per year?
- The hotel gets enough electricity to boil 1 million eggs
- Do approx. 5 million smartphone downloads
- Boil 290,000 liters of coffee (about 800 liters per day)
- Drive 145,000 km in a Tesla electric car (which can be charged outside the hotel)

# CASE STUDY - SAMSO ISLAND AND ENERGI AKADEMIET

**The Building**
The Energi Akademiet at the Samso island in Demark uses in its building environment a combination of different techniques in order to establish a good track on energy use.

The building has concrete walls in strategic areas to store heat and cooling. The kitchen is an example of such area. The wall can store the heat of the kitchen as well as the whether. This cools down the anbiance and save the head for later use when the house need warming.

Another technique is the smart ventilation system that takes care of air quality and cooling. Moreover they store rain water, recycling it in toilets.

**Energy Producing Cooperatives**
The Akademiet facilitated the creation of cooperative projects in order to produce renewable energy.

One of this projects is the implementation of district heating through biomass. Another project is the generation of electricity through a cooperative of wind turbines. electricity among other activities, a big highlight is the engagement process that they go through in order to achieve such results.

They created forums to engage their stakeholders and created a financing system so the ownership would stay within the island.

For example, they made a deal with the bankers that people could buy shares of wind turbine on credit. They calculated the cost and price according to energy production, and established a fixed fee for 7 Years to cover the ROI. Today they have covered the investment and are generating profits in an addition to a positive environmental and social impact

Moreover, the work for installing wind turbines was facilitated by a collaborative work with Island authorities by establishing areas that are allocated for the construction of wind turbines, now everyone who wants to build a turbine can do it without going through the bureaucracy of getting a permit for the land.

The district heating facility using biomass has a similar ownership as the wind cooperative. People can be an owner for approx. 13euro. At the beginning, farmers get a contract for 5 years to gather they biomass, making it a secure investment for them also. Nowadays such contract are even longer. On the customer side, buyers can feel the stability of such system which prices does not vary as the oil prices changes.

**Transport**
One of the ferry routes is also owned by island employing local people. Moreover, the ferry itself is moved by batteries fueled by biogas. Such option allow them to use their biogas plant so the money stay in the island. It also saves money since the local production of fuels makes the operation cost cheaper and more resilient.

**Other circular solutions**
In another project they cooperated with water pump producer to create a more sustainable pump that can be repaired and updated without throwing the whole pump away. It is a modular concept that also enable the possibility of the company offering services.

# APPENDIX 1
# VEHICLES AND FUELS

# APPENDIX 1
# VEHICLES AND FUELS

**Different vehicles and fuels in Sweden based on information from Miljöfordon Sweden**

- Biogas
- Fuel cells - hydrogen gas
- Electric cars and electric hybrids
- HVO

**Biodiesel**
Biodiesel, the most common of which is RME (rapemethyl ether) made from rapeseed oil and other esters from vegetable oils (also known as the name FAME). Also included is HVO (hydrogenated vegetable oil), which is FAME processed into a copy of diesel oil. RME and FAME are mostly used for incorporation into fossil fuels. As far as HVO is concerned, it is possible to drive diesel cars entirely at HVO. Read more about HVO further down.

**Biogas**
Vehicles that can be driven on gas usually have two tank systems, one for gasoline and one for gas. Apart from the gas tanks, there is not much that separates gas cars from gasoline cars. Gas cars work just like ordinary gasoline cars, except that the range of using only gas is shorter. The fuel tank will handle when the gas is over, so the total possible mileage is usually longer than the corresponding gasoline model. In a comparison of fuel consumption and fuel price, one liter of gasoline corresponds to about 0.74 kg of gas.

### The gas is a mixture
Vehicle gas is the collective name of the fuel used in gas vehicles. Vehicle gas consists of biogas and natural gas in varying blend. Vehicle quality and natural gas biogas are essentially pure chemical and consist mostly of methane. This means that they can be mixed in any proportion in the car's tank and you can tank at any gas tank. The proportion of biogas in the vehicle gas is now around 70 percent, with major local variations. There is also the possibility of tanking 100 percent biogas, that is, it is possible to drive fossil-free by gas car.

### Biogas is renewable
Biogas is a renewable fuel sometimes can be recovered by digestion of, for example, food waste, manure or sewage sludge. The climate benefit with biogas will therefore be very big and even exceed 100 percent because it not only replaces fossil fuels but also takes care of waste.

### Natural gas is fossil
Natural gas is a fossil, that is, no renewable, fuel extracted from oil sources, and recently also through oil shale. Driving on natural gas produces greater greenhouse gas emissions than biogas but lower than gasoline and diesel.

**Fuel cell vehicle**
A fuel cell car is often powered by hydrogen. A fuel cell car is a type of electric car. It is equipped with fuel cells that convert oxygen and a fuel to electricity that drives the car's electric motors. Some of the electricity is also stored in a smaller battery that equals the variation in power consumption based on driving. The cars have many advantages: the range is around 50-60 miles and they are thought in 3-4 minutes.
Usually the vehicle is fueled with hydrogen. If hydrogen is produced on green electricity, they are completely emission-free - exhaust ducts come clean water only.

**Electric car and charge-hybrid**
A clean electric car does not release any emissions. The electric car is powered by electric motors that run on electricity only from a battery.
The battery in the electric car is charged with power from the power grid. Battery development also goes fast, which makes the range considerably increasing without the batteries getting bigger or heavier.

Most models now sold in Sweden (2017) have a range of 20-28 miles. But the trend is moving towards longer range and two models have already passed 40 miles, Renault Zoe and Tesla. The extent to which the battery is sufficiently affected by the outdoor temperature and the amount of electrical equipment used in the car. When it's cold and you have to heat the cabin, much of the electricity will disappear and the range will be shorter.
Although the range of electric cars is significantly shorter than for other cars, it is fully enough for most car journeys made daily by private individuals as well as companies. The daily journeys made in Europe are approximately 4.5 miles.

### Difference between electric cars and charge hybrids
The hybrid is also called a plug-in hybrid and has two engines: an internal combustion engine and an electric motor. Charge-hybrids, like electric cars, have a battery that can be charged from the electricity network/chargers, however, the battery doesn't hold as long as the charged electric cars. Charge hybrids are also fueled with gasoline or diesel.

A prerequisite for electric cars to really benefit from an environmental is that they are thought of with renewable electricity. The most optimal is if you yourself have the opportunity to produce electricity from solar cells and charge your car.

If all drivers in Sweden were to drive on electricity (over 4 million electric cars), just under 10 TWh would be needed. This corresponds to less than 10 percent of Sweden's total electricity usage.

**Electric hybrid**
Elhybrider has two engines, a common combustion engine and an electric motor. When you're driving, both engines can work to drive the car, either at the same time or separately. Electric hybrid cars use the internal combustion engine to charge the electric motor battery while traveling, but also braking and idling can be used for charging. Part of the energy that becomes waste heat in a regular car can be used as electricity in the battery and drive the electric motor. This reduces fuel consumption. Elhybride can`t be charged with electricity from outside. The electric motor instead makes the electric hybrid an extra energy efficient vehicle for fossil or renewable fuels.

**HVO**
HVO is a renewable diesel that reduces the diesel car's carbon dioxide emissions. HVO (hydrogenated vegetable oil) is made from vegetable oils and animal fats. The production of HVO sold in Sweden is based on crude oil, which is a residual product from the pulp industry, rapeseed oil, palm oil, slaughter waste and also fat from restaurants collected and processed. The palm oil included in HVO sold in Sweden is certified according to the EU's strict rules for renewable fuels. There is also a residual product from palm oil production, PFAD used in HVO. It is not certified.

Since HVO is very similar to fossil diesel, up to 30-40 percent of HVO can be mixed into diesel in the current diesel standard. It is often done in the diesel sold at the service stations.

For higher inclusion, the vehicle manufacturer's approval is required. Many truck manufacturers and some car manufacturers have approved their 100 percent HVO vehicle (HVO100).

Information about different vehicles broken down by fuel
https://www.miljofordon.se/bilar/
https://www.miljofordon.se/bilar/soek-bil/

Here you can charge electric vehicles
http://www.uppladdning.nu/

Business Model Innovation for

# Circular Economy

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# INTRODUCTION

Switching from the current linear model of the economy to a circular one has recently attracted the attention of major global tourism companies, for instance, Hilton Worldwide Holdings. The reasons for this are immense financial, social, and environmental benefits. The rise of interest of SMEs in participating in this growing trend is also noticeable. Unlike large corporate conglomerates SME's, are, however, often lacking expertise in the field. Thus, comprehensive knowledge of designing circular business models is needed to stimulate and foster the implementation of the circular economy.

# OBJECTIVES

1. The overall objective of the workshop is to introduce, circular approach by design, followed by a demonstration of good practices, recommendations, and practical exercises regarding closed-circuit, business models implementation.
2. Second of all, we hope to induce a pro-innovative initiatives among SME's, with particular emphasis onto ones representing tourism industry.
3. Thirdly, we raise the awareness and encourage the gradual shift towards circular business models.
4. Last but not least, we expect workshop participants to get familiar with practical skills and knowledge regarding:

a. the concept of innovation and how can it be used with relation to the circular economy
b. how to identify the benefits from introducing innovations in the tourism industry
c. business model design and concept
d. tools of development, evaluation, and validation of closed-circuit business models

# KEYWORDS

## Circular economy

The concept of CE defines a set of principles for production and consumption, radically different from the linear 'take-make-dispose' regime prevailing in today's market economies, based on continuous economic growth and increasing resource throughput. The CE goes further than calling for implementation of 'sustainable,' 'green,' resource-effective, and environment-friendly technologies in isolated links of production systems. It requires a broader and more comprehensive design of radically alternative solutions over the entire life cycle of products and adoption of closing-the-loop production and consumption patterns within the whole economic system. (See Cirtoinno handbook_CRT rev. 4.0, p. 6 – chapter 1.2 The Circular Economy – a new development paradigm)

## Circular business model

The CE relies on value creation through restoration, regeneration and re-use of resources, enabled by new types of business models and forms of consumption that discard ownership and rely on active 'users' rather than passive 'consumers'. (See Cirtoinno handbook_CRT rev. 4.0, pp. 6-7 – chapter 1.2 The Circular Economy). In order to obtain a circular business model, a business does not need to close all its resource loops within the firm. A circular business model can also be one in which the company operates as part of a larger system and adds to other companies' circular business models, which together create a closed loop system (See Cirtoinno handbook_CRT rev. 4.0, p. 24 – chapter 2.4 Circular business models).

## Business Model Canvas

- strategic management tools for developing new or documenting existing business models. Visual charts with elements describing product's/service's value proposition, infrastructure, customers, and finances. It assists firms in aligning their activities by illustrating potential trade-offs. The Business Model Canvas was initially proposed by Alexander Osterwalder based on his earlier work on Business Model Ontology. Since the release of Osterwalder's work in 2008, new canvases for specific niches have appeared, such as Lean Canvas dedicated to the startups- business ideas of very early stage of development, created by Ash Maurya in 2010.

## Innovation

- the process of translating an idea or invention into a good or service that creates value or for which customers will pay. To be called an innovation, an idea must be replicable at an economical cost and must satisfy a specific need. Innovation involves deliberate application of information, imagination, and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated and converted into useful products. The Oslo Manual (see: http://www.oecd.org/science/inno/2367614.pdf) defines four types of innovation:

- **Product innovation:** A good or service that is new or significantly improved. This includes significant improvements in technical specifications, components, and materials, software in the product, user-friendliness or other functional characteristics.
- **Process innovation:** A new or significantly improved production or delivery method. This includes significant changes in techniques, equipment, or software.
- **Marketing innovation:** A new marketing method involving significant changes in product design or packaging, product placement, product promotion, or pricing.
- **Organizational innovation:** A new organizational method in business practices, workplace organization, or external relations.

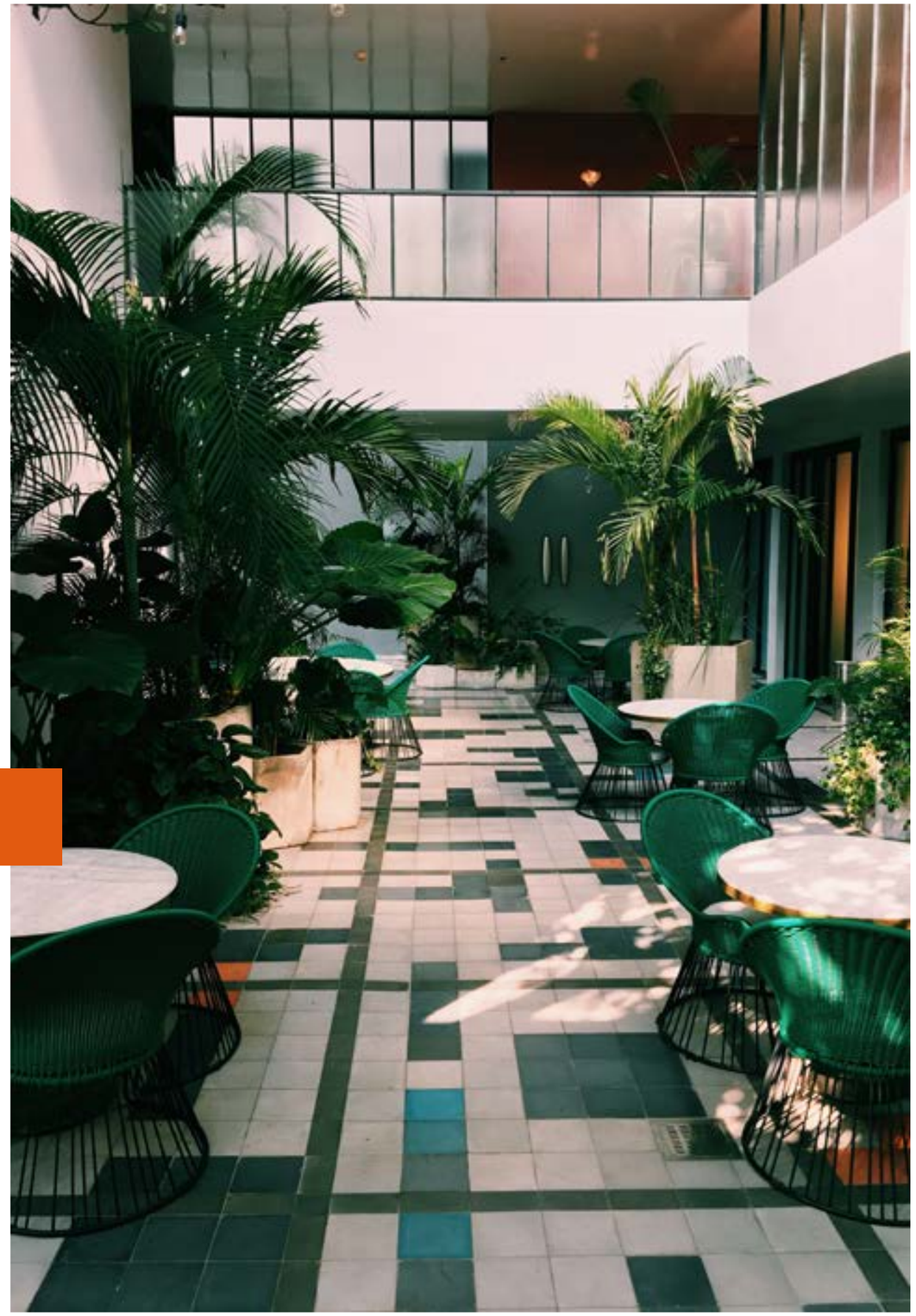
# THEME

# WHAT‘S BUSINESS MODEL INNOVATION

Business model innovation is the art of enhancing advantage and value creation by making supportive changes to an organization’s value proposition to customers and its underlying operating model. These changes can address the choice of target segment, product and service offering, and revenue model. At the practical level, the focus is on how to drive profitability competitive advantage and value creation through the decisions on how to deliver the value proposition.

BMI, as a toolset, facilitates the description of the essential factors by which a company creates value. It identifies the following aspects:

- Who are the target customers?
- What is the benefit for customers and for partners who are involved in value creation?
- How is the company created and delivered the benefit?
- How does the company earn money?



# INNOVATION AS A SOURCE OF STRATEGIC, MARKET ADVANTAGE

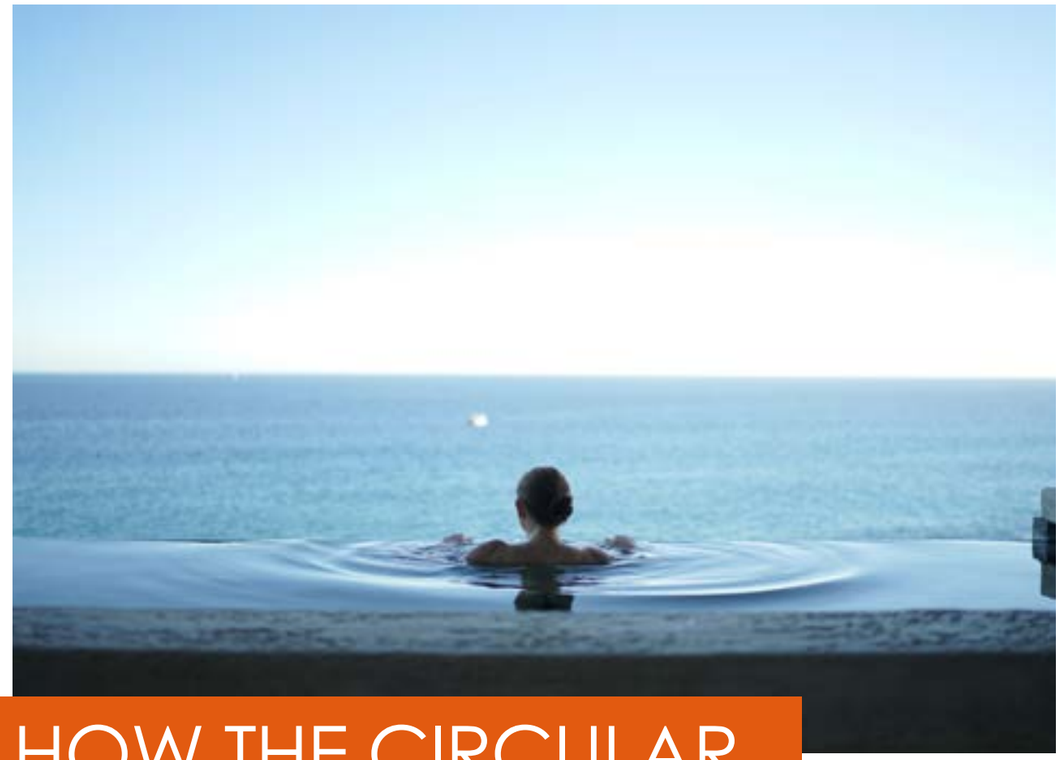
W. Chan Kim and Renée Mauborgne, in their book titled "Blue Ocean Strategy," identified two basic environments in which modern enterprises can conduct market activity. The so-called oceans are either red or blue. Red Ocean is a very competitive surrounding where companies are fighting at the limited potential market. Due to the fact that all actors exploit the same, limited niche price becomes key factor, differentiating competitive offers. Such a market naturally favours larger entities that can take advantage of the so-called scale effect.

Blue Oceans, on the other hand, represent newly created markets or niches. Competition becomes irrelevant since the undivided attention of this freshly built environment is centred around the company that created it. Market creator gained the position thanks to capturing the fact of appearance of new market demand and an ability to answer the need with the most complete answer.

High inventive potential, however, is not a determinant factor of high market potential, which makes the implementation of innovations (especially product ones) a risky phenomenon marked by many unknowns. Thus one of crucial skills becomes an ability to identify market readiness. Various studies, such as Gartner Inc. report onto Hype Cycle for Emerging Technologies, show that even a significant degree of a public interest in a given field is not a proof of market purchase readiness or that the overall market size turns out to be much smaller than expected. That is the case of Barobot. A mechanical bartender, mixing cocktails from a total of 12 bottles, was an invention developed in Poland in 2014. The product, at the time it's market debut, received extensive media interest (so-called "hype"), thanks to which it gained considerable recognition throughout the CEE region. However, market response turned out to be of minimal volume. The product, despite being an example of advanced hi-tech offering, failed to address an actual need of its potential customers. Barobot proved to be "nice to have," instead of "must-have" and a model example of a solution that, despite high popularity, was not able to create a sufficient market for itself.

Nonetheless, there are other available strategies for gaining advance thru implementing innovation. Process, organizational, or marketing innovations are, in many cases, less risky (do not introduce new products, but enhance or improve offering of already available solutions), yet represent similar potential as a competitive advantage creator.

One of the examples of good practices in the field of marketing is the Zyferblat coffee network. Established in 2011 in Moscow (Russia), Zyferblat describes itself as "anti-café." Project's ingenuity manifests not in the product's sphere (it offers regular, coffee shop, commodities), but in a creative approach to the revenue strategy. Customers pay per minute for the time spent in the venue, whereas all available products or services are for free. For Zyferblat such an approach is a mean of standing out on the market, but more important, it's a constructive solution of one of the oldest problems of the coffee business owners-time spent at the shop by a single customer. Traditionally cafes try to use techniques accelerating customer turnover since every minute spent by in the premises increases costs and reduces sold product's profit margin. In Zyferbalt case, clients are encouraged to stay longer since every minute of clients presence at the venue increases generated profits.



# HOW THE CIRCULAR ECONOMY PRINCIPLES APPLY TO THE COMPONENTS OF BUSINESS MODEL?

The fundamental constructs and constituent elements of circular business models can be derived from the main principles of the circular economy. In the CIRTOINNO handbook, such components are understood and defined in various ways. One example is that circular economy mainly emerges through three main 'actions,' i.e. the so-called 3R principles: Reduction, Reuse, and Recycle (See Cirtoinno handbook_CRT rev. 4.0, pp. 22-23 – chapter 2.3 CE principles as basis for business action). Another „business action framework" has been developed by the Ellen MacArthur Foundation, based on three fundamental CE principles. It involves six guiding actions abbreviated ReSOLVE (Regenerate, Share, Optimize, Loop, Virtualize, Exchange) framework, ways of circular value creation, normative requirements for business models, and areas for integration.

Table 1.1 How the circular economy principles apply to the components of Business Model Canvas ("X" indicates if CE applies to the particular component of business model)

| Traditional BMC components | Regenerate | Share | Optimize | Loop | Virtualise | Exchange |
|---|---|---|---|---|---|---|
| Partners | | X | | X | | |
| Activities | X | | X | X | X | |
| Resources | X | | X | X | X | |
| Value proposition and customer segments | | X | | X | X | |
| Customer relations | | | | | | |
| Channels | | | | | X | |
| Cost structure | X | | X | X | | X |
| Revenue streams | | X | | X | | |
| "CE adopted," additional BMC components | | | | | | |
| Take-back system | | | | X | | |
| Adoption factors | X | X | X | X | X | X |

*Source: Ellen MacArthur Foundation. Towards the Circular Economy: Economic and Business Rationale for an Accelerated Transition. Available online: https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf*

# ADDITIONAL COMPONENTS OF A BUSINESS MODEL RELATED TO THE CIRCULAR ECONOMY

It is believed that once designing a circular business models, additional issues, exceeding traditional Business Model Canvas components, should be taken into consideration. Especially two areas need introduction to the framework to achieve enhanced, closed-circuit design.

These are:

- **The Take-back system**, which assumes products or their components cascade usage (in case of biological nutrients) or reuse, redistribution, remanufacturing, refurbishing, or recycling (in case of industrial materials). According to the direction of material flow in a supply chain, both forward and reverse are possible; however, reversed logistics may require different partners, channels or customer relations.
- **The Adoption factor**s that help to manage barriers related to the circular models implementation. There are internal and external factors affecting adaptation of a designed business model or circular economy principles. Internal factors concern organizational capabilities such as intangible resources, low team motivation or corporate culture, insufficient knowledge. External factors comprise technological, political, sociocultural, and economic issues.

The circular business model canvas is therefore extended and adjusted. It has eleven components allowing to design models according to the principles of the CE:

1. Value propositions—offered by circular products enabling product-life extension, product-service system, virtualized services, and collaborative consumption. Moreover, this component comprises the incentives and benefits provided to the customers for bringing back used products.
2. Customer segments—directly linked with value proposition component. Value proposition design depicts the fit between value proposition and customer segments.
3. Channels—possibly virtualized through selling virtualized value proposition and delivering it also virtually, selling non-virtualized value propositions via virtual channels, and communicating with customers virtually.
4. Customer relationships—underlying production on order and what customers decide, and social-marketing strategies and relationships with community partners when recycling is implemented.
5. Revenue streams—relying on the value propositions and comprising payments for a circular product or service, or fees for delivered availability, usage, or performance related to the product-based service offered. Revenues may also pertain to the value of resources retrieved from material loops.
6. Key resources—choosing suppliers offering better-performing materials, virtualization of elements, resources, elements allowing to regenerate and restore natural capital, and the funds obtained from customers or third parties meant to circulate in material loops (preferably closed).
7. Key activities—focused on increasing performance through good housekeeping, better process control, equipment modification, and technology changes, sharing and virtualization, and on improving the design of the product, to make it ready for material loops and becoming more eco-friendly. Key activities might also comprise lobbying.
8. Key partnerships—based on choosing and cooperating with partners, along the value chain and supply chain, which support the circular economy.
9. Cost structure—reflecting financial changes made in other components of CBM, including the value of incentives for customers. Particular evaluation criteria and accounting principles must be applied to this component.
10. Take-Back system—the design of the take-back management system, including channels and customer relations related to this system.
11. Adoption factors—transition towards circular business model must be supported by various organizational capabilities and external factors.

Table 1.2 Circular Business Model Canvas

**Key Partners**
- Who are our Key Partners?
- Who are our Key Suppliers?
- Could the supplies needed come from the wasted resources of another business nearby?
- Which Key Resources are we acquiring from partners?
- Which Key Activities do partners perform?

**Cost Structure**
- What are the most important costs inherent in our business model?
- Which Key Resources are most expensive?
- Which Key Activities are most expensive?

**Key Activities**
- What Key Activities do our Value Propositions require?
- Our Distribution Channels?
- Our Customer Relationships?
- Our Revenue streams?

**Key Resources**
- What Key Resources do our Value Propositions require?
- Could they come from resources wasted by our clients?
- Could products be made out of ingredients that offer the same functionality as the traditional ones used but that biodegrade over time?
- Our Distribution Channels?
- Customer Relationships?
- Revenue Streams?

**Revenue Streams**
- For what value are our customers really willing to pay?
- For what do they currently pay?
- How are they currently paying?
- How would they prefer to pay?
- How much does each Revenue Stream contribute to overall revenues?

**Adoption Factors**
- Organizational capabilities
- PEST factors

**Value Proposition**
- What value do we deliver to the customer?
- Which one of our customer's problems are we helping to solve?
- What bundles of products and services are we offering to each Customer Segment?
- Which customer needs are we satisfying?

**Customer Relationships**
- What type of relationship does each of our Customer
- Segments expect us to establish and maintain with them?
- Which ones have we established?
- How are they integrated with the rest of our business model?
- How costly are they?

**Customer Segments**
- For whom are we creating value?
- Who are our most important customers?

**Take-Back System actions:**
- management
- channels
- customer relations

**Channels**
- Through which Channels do our Customer Segments want to be reached? How are we reaching them now?
- How are our Channels integrated?
- Which Channels work best?
- Which Channels are most cost-efficient?
- How are we integrating them with customer routines?

*Source: M. Lewandowski, Designing the Business Models for Circular Economy—Towards the Conceptual Framework, Institute of Public Affairs, Faculty of Management and Social Communication, Jagiellonian University, Kraków 2015*

# HOW TO DESIGN INNOVATIVE CE BUSINESS MODELS TO THE EVERYDAY BUSINESS PRACTICE?

In order to answer the questions how the principles of the circular economy can be applied to a business model and which universally applicable components are needed for a circular business model, this training material has been employed.

The process is divided into four steps:

1. Observing
2. Planning
3. Implementing
4. Checking and revising

# OBSERVING

**Observing is a step that identifies the body of knowledge needed to evaluate current module-specific processes, measure current processes outcomes and identify the module-specific processes that need to be changed obtain the answers for the research questions.**

**Current Business Model Analysis**

Businesses – whether large or small – run around in circles daily to cater for customers' need and desires. The process of moving to a more circular business model typically begins with an analysis of where existing inefficiencies and leakages lie within a business's current linear model. Companies must identify customer segments that have needs related to the circular economy by using market research to identify areas of environmental or social concern related to new or existing products. It is also essential to consider the lifecycle stage of a product as this may determine its potential for re-use or refurbishment. It is, therefore vital to understand customer behaviour and requirements before assessing the potential viability of a circular business model concept. Furthermore, you always need to be two steps ahead of everything: the other businesses in your field, your suppliers, your clients, your employees, the economy – and also of yourself. See Table 1.2 for an example of step by step business model analysis.

The ultimate goal of understanding the business model variations in the digital world is to be able to address real-world problems that the business faces. It is one thing to understand what the business models are and what distinguishes them from each other, but it is quite another to be able to understand what is going wrong, why, and what results another business model might provide.

Table 1.3 Business Model Analysis, step by step.

**DOCUMENT THE CURRENT BUSINESS MODEL**
Develop a business model canvas and „unpack" the business model.

▼

**MAP CURRENT PROFIT POOLS**
Complete a profit pools analysis of the company's varied business units and/or the industries the company operates in.

▼

**EXPLORE ALTERNATE BUSINESS MODELS**
Understand different business models, which model your company is employing, and the critical success factors for each.

▼

**ASSESS THE IMPACT**
Brainstorm alternate business model canvases for the company and explore how the customer and partner relationships would be affected by these changes. Understand how the company's key resources and key activities change as the business model change.

▼

**BUSINESS MODELLING AND COMPETITIVE RESPONSE**
Develop operations, service, and financial models to support the new business model scenarios. Be sure to incorporate competitive reactions, apply game theory to understand potential moves and counter-moves. Which models provide higher profit or revenue opportunities? Which are most susceptible to being undercut by entrenched incumbents or young start-ups?

**How to identify if customer needs are met**

Next, we get into an analysis of the business model as it relates to the customer. This would include evaluating the company's relationship with its customers as well as the customer interfaces. A key aspect of most business models is how the company interacts with customers, levels of customer intimacy and self-service, as well as the overall benefits and value proposition for the customer. Naturally, all of these factors come back to the channels that the company sells through, such as a direct sales force, retail locations, and a website. How would the company's customer interactions change with a different business model?

**The main questions:**

- Which customer needs are/ are not satisfied?
- Do customers need to own the products or can services better meet their need?
- What are the emerging trends that may influence the value proposition in the short or long term?
- How can value be delivered to the customer in a less resource-intensive way?

**Questions related to the Circular economy:**

- Could we offer a service alongside our product?
- Could we make our products more robust and repairable so that they last longer?
- Could we explore some additional revenue streams from selling the spare parts needed and recovering the old ones?

When the company sums up all information: evaluates current module-specific processes, measures current processes outcomes and identifies the module-specific processes that need to be changed obtains the answers for the research questions, the company can begin to the planning part.

# PLANNING

**Study object** – define and identify circular based business model objectives.
**Study purpose** – evaluate and identify circulating processes to achieve the new goals, related challenges and solutions.

**The main tasks:**
- Identify actors in the process
- Identify required resources
- Identify required actions and circulating processes to achieve the new goals, problems and solutions

**How to identify the actors in the process?**
Circular economy requires widespread commitment and cooperation over a range of different actors (see Table 1.4). Actors are the ones that will carry out the tasks involved in a process. In some cases, their working routine may include some unsuccessful habits that slow down the process, complicate its flow, or even create mistakes in its results. Completely changing the actors' habits will surely produce great resistance to its implementation. Actors perceived as important for the transition to a circular economy are: public sector, business, researchers and the civil society, who are believed to be motivated by the notion that a circular economy will lead to a more sustainable society. Furthermore, it is assumed within a circular economy that at a broader social level, different partners will work together towards the common goal of a circular economy.

Table 1.4 Key actors of the business environment.

| ACTORS | |
|---|---|
| Public sector | Who can help us? |
| Business | |
| Researchers | |
| Civil Society | |
| Employees | • Who will be the key players in the business? (Name the management team, board and advisors to the business. Highlight their expertise and experiences.)<br>• What communication should take place with the employees? |

**Review your goals and outcomes to see if they are met:**
- Did we meet the goal we envisioned before the business process began?
- Were our strategy plans made with our goals in mind?
- How far did we stray or how precise did we follow our goals?
- Were our goals too challenging? Were they unrealistic?
- Were our goals too simple? Did we underestimate ourselves?
- Were our goals aligned with the industry's standards?
- What could have been improved?

Note what did not work well and ensure you do not repeat it. Focus on your success and take notes on the way to repeat and expand them. The table 1.5 is a practical example pf questions regarding goals and their match with a given BMC component:

| **ACTION DESCRIPTION** (Which actions are required to reach the desired goal?) | **PARTY/DEPT RESPONSIBLE** (Which group of staff are involved in working with this objective? Who will perform the activities? Who will monitor the process?) | **START DATE** | **END DATE** | **REQUIRED RESOURCES** (Financial, human etc.) |
|---|---|---|---|---|
| | | | | |

**GOALS RELATED TO PARTNERS (Who will help you?)**
Write your goal statement here

**GOALS RELATED TO ACTIVITIES (How do you do it?)**
Write your goal statement here

**GOALS RELATED TO RESOURCES (What do you need?)**
Write your goal statement here

**GOALS RELATED TO CUSTOMER RELATIONSHIPS (How do you interact?)**
Write your goal statement here

| **ACTION DESCRIPTION** (Which actions are required to reach the desired goal?) | **PARTY/DEPT RESPONSIBLE** (Which group of staff are involved in working with this objective? Who will perform the activities? Who will monitor the process?) | **START DATE** | **END DATE** | **REQUIRED RESOURCES** (Financial, human etc.) |
|---|---|---|---|---|
| | | | | |

**GOALS RELATED TO CUSTOMER SEGMENTS (Who do you help?)**
Write your goal statement here

**GOALS RELATED TO DISTRIBUTION CHANNELS (How do you reach them?)**
Write your goal statement here

**GOALS RELATED TO COSTS (What will it cost?)**
Write your goal statement here

**GOALS RELATED TO REVENUE STREAMS (How much will you make?)**
Write your goal statement here

# IMPLEMENTING

Implementing the circular economy framework and philosophy into your organization can take time. However, the result will be a future of security and opportunity that you can use to position yourself as a leader in your field. To ensure that in the future,' there are enough raw materials for food, shelter, heating and other necessities, our economy must become circular. That means business model innovation preventing waste by making products and materials more efficiently and reusing them. If new raw materials are needed, they must be obtained sustainably so that the natural and human environment is not damaged. Table 1.6 provides general characteristics of linear and circular business models and you can compare at what stage of the business model you are.

Table 1.6 General characteristics of linear versus circular business models.

| LINEAR MODEL | CIRCULAR MODEL |
|---|---|
| **What? The value of proposition** | |
| Low cost products that are disposable at their end of life | Durable products designed for re-use |
| Emphasis on ownership | Services instead of products |
| Take, make, dispose | Take, make, re-use, recycle |
| **HOW? Processes and supply chain** | |
| Take, make, waste | Take, make, remake |
| Limited role and influence of customer | Customers become partners |
| Supply chain management several tiers up | Supply chain management of the whole system |
| **WHY? Financial model** | |
| Pay per product | Pay per use or performance (hours, km, sheets etc.) |
| Make more and sell more | Make better and gain more |
| Negative value creation at some stages | Positive value creation at all stages |
| **WHO? Customer interface** | |
| Transfer ownership | Access over ownership |
| Products are not taken back after warranty | Product take back or service / performance provision |
| Traditional customer segments | Appeal to new niche segments |

In this stage actions regarding each plan will be implemented. Actions can be as many as needed depending to how comprehensive the plan is. In the best case the timeline may be the same timeline as in the Planning phase. But in the Implementation phase the timeline can deviate from timeline of Planning. People can be the same people as in the Planning phase or they can be different. Hence, in the Implementation phase some deviations may occur compared to the Planning phase in terms of time and people. In addition, planners should divide each plan in to several actions in order to execute them.

Table 1.7 Actions related to implementation of Business Model Canvas.

| Actions related to changing partners | Timeline | People to implement | People to supervise | People to collect data |
|---|---|---|---|---|
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to changing activities** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to changing resources** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to changing relationships** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to changing segments** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to changing distribution channels** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to changing costs** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| **Actions related to revenue streams** | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |

# CHECKING AND REVISING

In this step, called Checking and Revising, the company identifies the processes that need to be changed or improved, performs them and periodically reviews a checklist for the actions taken towards module-specific activities and the actors involved.

The assigned people in the Planning phase perform the Checking. Planned outcomes will be checked against achieved outcomes. The difference between these two show the deviations from plan. Accordingly, actions will be decided. Actions will be decided based on the gap between planned and achieved outcomes.

Table 1.8 Actions related to the checking process.

| | Achieved vs Actual Outcomes | Planned vs Desired Outcomes | Deviations/ Gap |
|---|---|---|---|
| Action 1: actions can be as much as necessary. Add more if needed. | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to changing activities** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to changing resources** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to changing customer relationships** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to changing customer segments** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to changing distribution channels** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to changing costs** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |
| **Actions related to revenue streams** | | | |
| Action 1 | | | |
| Action 2 | | | |
| Action 3 | | | |

# REVISING

The gaps found in the Checking stage are the input for the Revising stage. Analysis on each action shows if the activity should be stopped or not. If the decision is to stop the activity then it will be dropped otherwise it will be continued. Documentation is the next action in this stage which not only helps organization to decide on actions based upon outcomes but also keeps knowledge within the organization. The last action in the stage of Revising is education. This action is necessary to settle down the PDCA (Plan, Do, Check, Act) policy in an organization. Education is also necessary to ensure continuous development which is the nature of the PDCA model.

Table 1.9 Actions related to the revising process.

| | Analysis of gap | Continue | Drop | Redo | Documenta-tion | Educate |
|---|---|---|---|---|---|---|
| Action 1 | Why is there a gap between planned and achieved outcomes? | Continue with the action if the planned outcomes are close to achieved outcomes | Drop the action if there is no value with the action or it will not generate desired results. | Redo the action if the gap between planned and achieved outcomes are large. | Document outcomes and prepare a report of Action 1 | In case the outcomes are acceptable, standardize Action 1 and educate subordinates how to do the action. |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to changing partners | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to activities | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to changing resources | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to changing customer relationships | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to changing customer segments | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to changing distribution channels | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to changing costs | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |
| Action 3 | | | | | | |
| Actions related to revenue streams | | | | | | |
| Action 1 | | | | | | |
| Action 2 | | | | | | |

# CASE STUDIES

**Good practices concerning implementation of innovative, closed-circuit business models**

One of the facts related to the sustainable approach- the very backbone of the Circular economy, is that although it was primarily an area of interest of large entities, in practice, it requires minimum resources to be implemented. 3R principle is an excellent example, of an easy to access strategy for introduction of circular mechanisms to everyday economic activities.

# REUSE EXAMPLES

**Looming Hostel (Estonia):** Not all products can be reconditioned in their entirety; most products have specific components that carry a high value. Often the materials have an embedded energy component that makes them even more valuable than their original source. With the right design and remanufacturing capabilities, they can be put together to form new products. This is called product transformation or reuse. Looming hostel is the first eco-hostel in Estonia, 99% of the hotel furniture is reused. They also train employees in environmental responsibilities and also encourages guests to act responsibly towards the environment. All cleaners they use are eco or nature-friendly, or they use soda and vinegar. Source: http://loominghostel.ee/eng/

**Paradores (Spain) and Albert Dock (United Kingdom):** Linking economics and authenticity to the community is instrumental in developing tourism. One of the most compelling benefits of tourism is the range of positive economic effects made possible by utilizing local history and heritage. The process of retrofitting old buildings for new uses, which allows structures to retain their historic integrity while meeting the needs of modern occupants, is called adaptive reuse.

An example of reusing old and historic buildings for tourist facilities is the Spanish Paradores. Founded by King Alfonso XIII to promote tourism throughout Spain, Paradores are great as a concept for displaying cultural heritage and creating jobs of areas off the beaten track. This public owned hotel and restaurant chain, consist of castles, monasteries, convents, palaces, historical venues, and regional constructions. Paradores have maintained authenticity, sense of place and architectural integrity, while being sensitive to the environment. Source: https://www.paradoresofspain.com

Albert Dock complex, a XIX century docking complex in Liverpool was used to be one of the greatest maritime cities on earth, where 40% of global trade was passed through by the beginning of the 19th century. By 1981, the entire Albert Dock complex was hovewer, abandoned. Efficient and bold reuse strategy for the area transformed it into unique retail and leisure offerring with six million visitors a year. Source: https://albertdock.com/history

**Historic Hotels of America (USA):** Comprised of mostly independently owned and operated properties. Some of the historic hotels are adaptive reuse projects, including buildings initially built as a historic theatre, a military barracks, U.S. post office, or office buildings. Program is managed by the National Trust for Historic Preservation for recognizing the finest Historic Hotels. Source: https://www.historichotels.org/

# REDUCE PRACTICES

**Usage reduction examples:** The overall goal is to minimize the input of energy, raw materials, and waste production through the improvement of internal processes f.e.:

- Stadthalle hotel is an example of a zero energy consumption hotel. Source: https://www.hotelstadthalle.at/
- The Voksenaasen hotel achieved the highest score for eco-friendliness among hotels in Norway. The building's design helps regulate temperate with south-facing overhangs, a geothermal system used to monitor the hotel's heating and cooling, and over 25% of hotel roof is planted with vegetation for wildlife habitats. Source: http://www.voksenaasen.no/
- The Adler-Feldberg hotel installed new system, which is collecting the heat produced by the refrigerators in the hotel's restaurant to heat the warm water in the hotel. They are currently saving 100% of the energy needed to heat the hot water in the hotel.

Source: https://adler-feldberg.de/en/

**FoodValue (the Netherlands):** Shortening of supply chains- project aimed at reducing logistics and environmental costs of delivery or processing of goods. FoodValue is a food supply chain of a local or regional dimension that offers an opportunity to receive higher quality food, for a competitive price (elimination of intermediaries) and restore feedback-related contact between food producers and city customers. Source: https://foodvalue.nl/

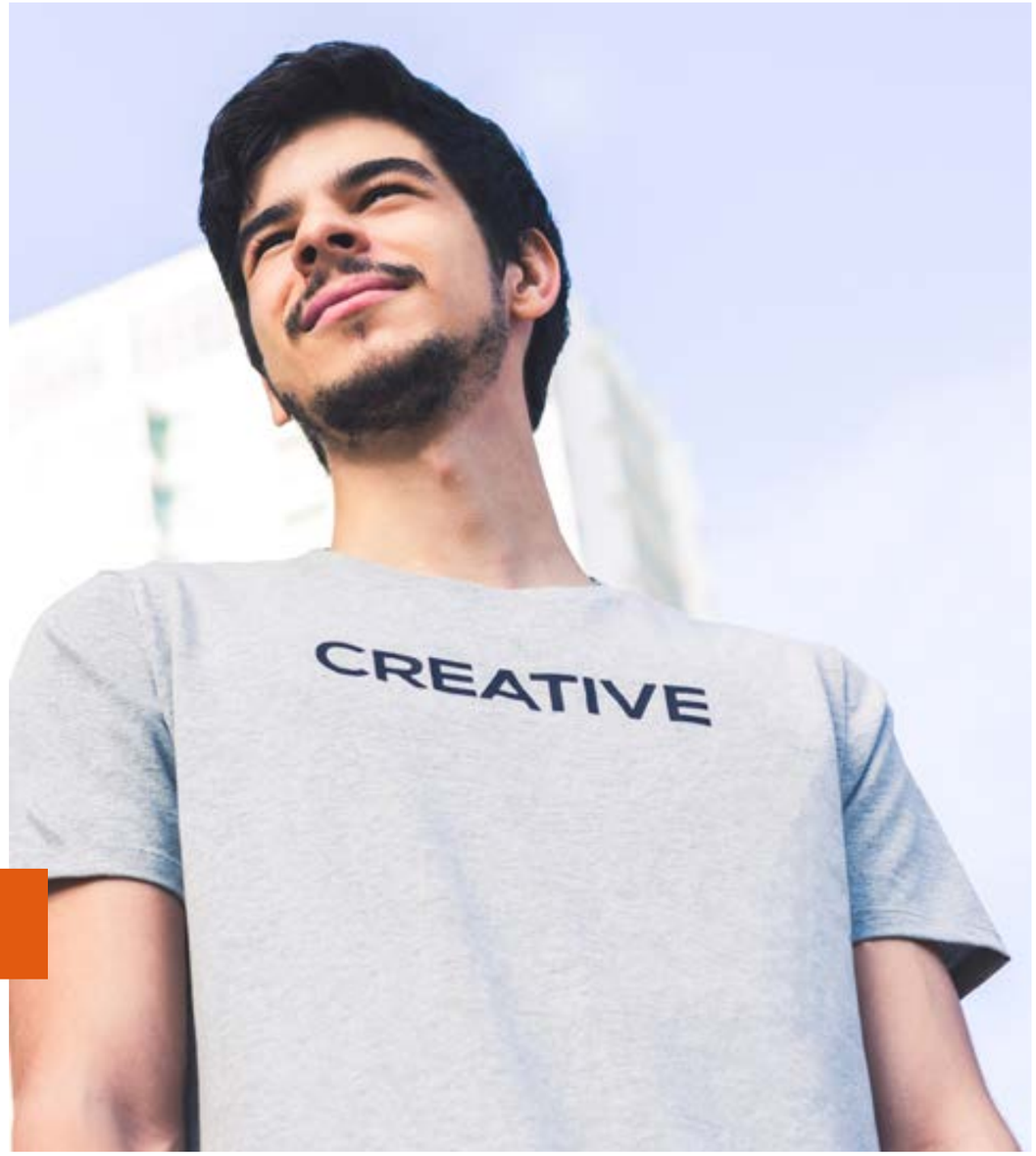
**Zero Gaspil (France):** Smart principles regulating meals provision, supported by an sustainable food usage training, resulted in decreased food waste in school cafeterias in France. The uniqueness of the project is manifested, in this case, in its simplicity. Zero Gaspil, from the very beginning, focused around soft techniques and changing the way food is served. By observing the way that meals are approached and consumed by students, project creators identified bad practices, which led to food wasting. Consequently they modified dishes size, and the modus operandi of its serving (f.e. tray's elimination), as well as, established set of principles protecting against excessive intake of meals (exceeding the student's appetite). As a result food waste decreased by 94% in some cases, transforming pilot program into nation-wide acknowledged strategy. Source: https://www.1001repas.com/zero-gaspil/

# RECYCLE

**The Leisurefarm (Maylaisia):** introduced a "Waste = Money" system, then visitors can pay part of their entrance fee with reusable waste (plastic, aluminium bottle, paper). This hotel has been awarded in European Business Awards for the Environment Winner 2016-2017. Source: http://www.leisurefarm.com.my/

**Sandymount Hotel (Ireland):** At the hotel 97% of hotel waste is now recycled or recovered. Source: https://www.sandymounthotel.ie/environment.html

**Winnow (United Kingdom):** Food waste monitoring tools – such as smart weighing meter technology supported by cloud software analyses and records of the day's waste provide real-time data helping kitchen managers and their staff reduce waste volume and cut costs related to products usage. Producent declares that it's customers typically save 3-8 % on food cost. Source: https://www.winnow-solutions.com




# OTHER CASE STUDIES REGARDING IMPLEMENTATION OF CIRCULAR BUSINESS MODELS

**The Hotel Allegro Bern (United Kingdom):** cooperates with a local charity called 'Bikeworks' who provided the hotel with 10 recycled bicycles for guests to use free of charge as an eco-friendly mode of transport and a fun way to explore London. Bikeworks service is an example of the sharing model, which is centered on the sharing of products and assets (e.g. cars, rooms, appliances) instead of its ownership.

**Green Solution House (Denmark):** is an example of an integration of all circular business models together. This hotel continuously adapts by embracing new green technologies that demonstrate state of the art developments in the building industry. Achieving this structure requires a regenerative business model; therefore, monetary revenue from the hotel and the conference centre's operations is spent to fund the ongoing integration of new solutions and the assessment of existing systems and products. The green Solution House works to inspire enhanced sustainability practices in both international and local design briefs. Source: http://www.greensolutionhouse.dk/circular-business-model/

# PROJECT VALIDATION

**A CIRCULAR APPROACH TO RESOURCE-EFFECTIVE AND COST-EFFECTIVE IDEAS TESTING**

Steve Blank, a world-famous business consultant, is believed to say, that "No Business Plan Survives First contact with customers." In his opinion, entrepreneurs often mistake their business plan as a cookbook for execution, failing to recognize that it is only a collection of unproven assumptions. Therefore a strong emphasis is put on improvement of the techniques allowing designed business models early validation. Thanks to testing, organizations can avoid the mistake of involving financial and non-financial resources in economically ineffective projects. One of the recommended technics is PRETOTYPING® introduced by Alberto Savoia.

According to Mr Savoia, deciding on which idea to invest, market testing has often been speculative and opinion-based, resulting in:

- False Positives: in which innovators get infectiously excited by ideas, which results in substantial investment in concepts not yet proven to be attractive to their markets.
- False Negatives: in which decision-makers and investors over-cautiously underinvest in innovative ideas before they've had a chance to be market-tested.

In response to this problem, the term Pretotyping was originated, defined as: "Validating the market appeal and actual usage of a potential new product objectively and with the smallest possible investment of time and money."

If prototyping is a process of testing that an idea can be built and work as expected, pretotyping's fundamental principle is that this is not the right test. What should be tested is whether the product or service should be developed in the first place and if customers will use it if it is. The pretotyping mission is described as: "Make sure you are building the right it before you build it right."


# HOW IT WORKS?

# EPILOGUE

To overcome the traditional barriers to concept testing, such as the unreliability of surveys and the inability of consumers to test concepts (resulting in a lack of correlation between test results and market success), pretotyping focuses on real data. Products or services, rather than ideas, are tested with actual respondents and showing tangible results.

This is done by different methods such as:

- **The Fake Door:** a fake "entry" for a product that doesn't yet exist in any form.
- **The Pinnochio:** a non-functional, "lifeless," version of the product; useful for form and fit validation.
- **The Mechanical Turk:** replacing complicated and expensive computers or machines with human beings.
- **The One Night Stand:** a complete service experience without the infrastructure required by a permanent solution.
- **The Impersonator:** a repackaged or re-" skinned," existing product masquerading the developed one.
- **The Minimum Viable Product (MVP):** a functional version of the product, but stripped down to its most basic functionality

Alberto Savoia book titled „The right IT" is at sale since 2019. Before publishing the final version of the book, an MVP version was released, describing all of the above-mentioned validation techniques, and available for download, free of charge, at https://www.pretotyping.org/.

Affordable and clean energy, responsible consumption and production, or sustainable cities and communities- the pillars of a circular approach belong to Sustainable Development Goals identified by United Nations (see: https://www.un.org/sustainabledevelopment/sustainable-development-goals/). They play a blueprint role to achieve a better and more sustainable future for all. Out of the SME owner perspective the 17 SDG agenda may, however, seem distant from the his or her everyday market struggle. Therefore, one of the fundamental goals of the authors of this study is to show that the circular approach finds very practical application in any business, regardless of its size or sector.

The presented examples show that a closed- circuit approach is achievable even in the conditions of a negligible investment budget or in the most traditional, seemingly less susceptible to innovation, services. The most important thing is, however, that the benefit of implementing circular innovations is noticeable immediately after implementation and has a measurable, monetary dimension. For SME companies, which often operate under tight budget conditions, the circular approach is not only an issue referring to the owners value system. It' s a must, an easy access mean of creating the lasting, market, competetive advantage.

Design Thinking tools for

# Circular Economy

LEAD PARTNER

PARTNERS

# LIST OF KEY WORDS

**Design thinking** - Design thinking is a mindset that supports us in finding solutions for wicked problems that meet user needs

**Process** - word „process" in this text will apply to the design thinking approach

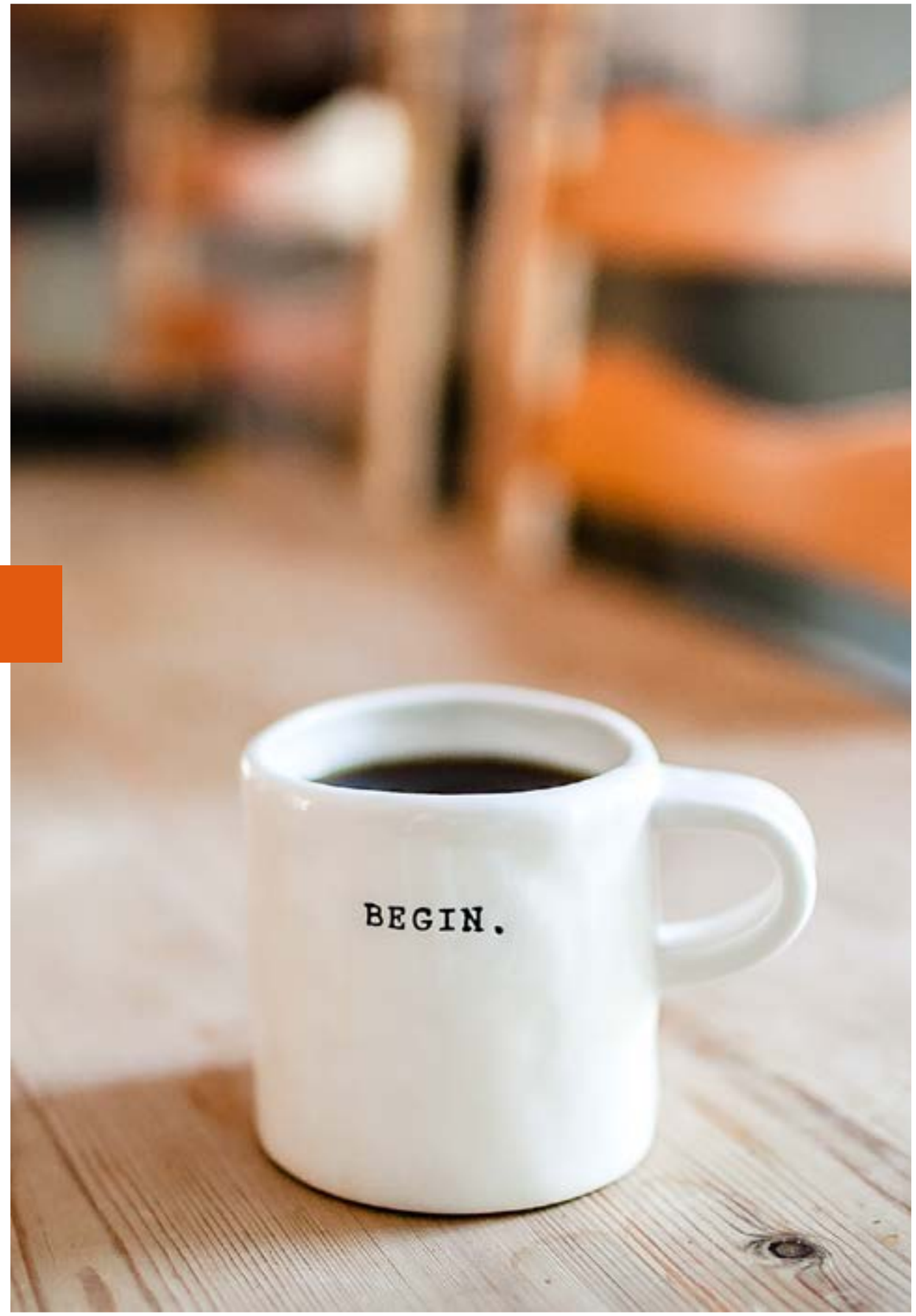
**User** - As a user, we will understand a person who is engaged in the service. The word may refer to someone who delivers the service or customer.

**Idea** - As an idea we will understand a draft of an innovative concept that solves a defined problem

**Research** - as research in this text we understand an organized activity focused on gathering and analyzing data about users. In design thinking process we focus on quality research based on such research methods as in-depth-interview, observations, etc.

**Prototype** - as a prototype we understand artifact that makes the idea tangible and helps to understand it. The prototype may present whole service ex. Storyboard or selected elements ex. Schedule of the meeting, gadgets, etc.

**Core team** - designing is a collective activity. To make it works, we need to gather an interdisciplinary team that will go through it.

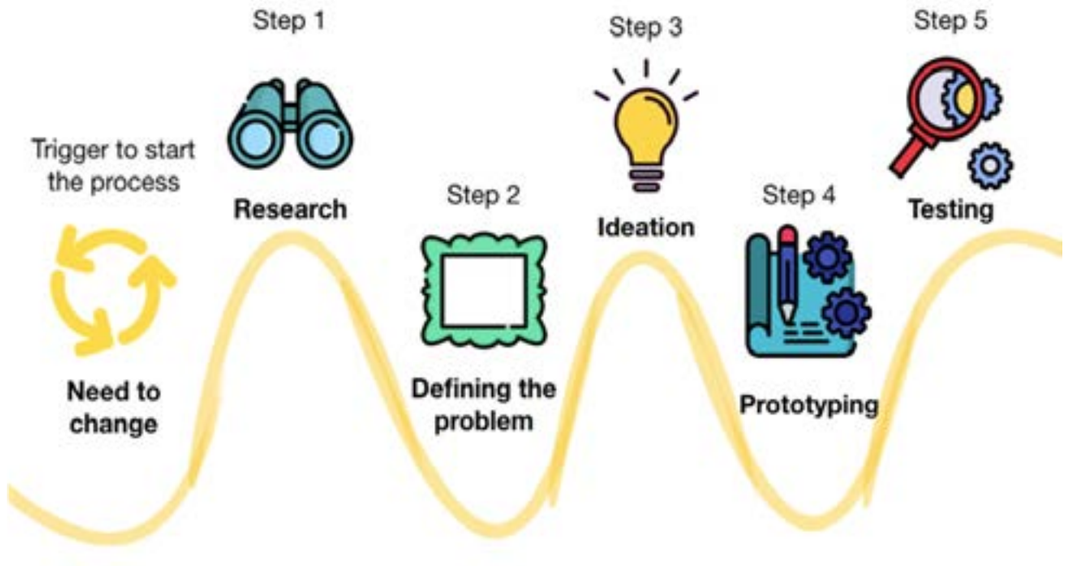


# INTRODUCTION TO CIRCULAR ECONOMY - DESIGN THINKING PERSPECTIVE

Circular economy from a business perspective is a rational way of delivering services/products by e.g. of use of the resources and waste generations. However, it is not so easy to implement it as requires not only change of the approach but also changes in the business model. There are barriers related to the way business used to work as well as to consumers habits. Implementation of circular solutions very often requires crucial changes in the product, service or business model. Thus it can be treated as a problem that needs creative solutions and an open mind.

Design thinking is an efficient process to solve "wicked problems" to which changes related to circular approach can be classified. Problems named that way do not have just one right solution, involve many stakeholders, have different reasons and affects different areas, are vague, need to be clarified and their fundamentals need to be identified. In this context design thinking is a framework that helps to implement the change in an organized manner and as a results limits the risk and supports learning process.

*Picture 1. Design thinking process*



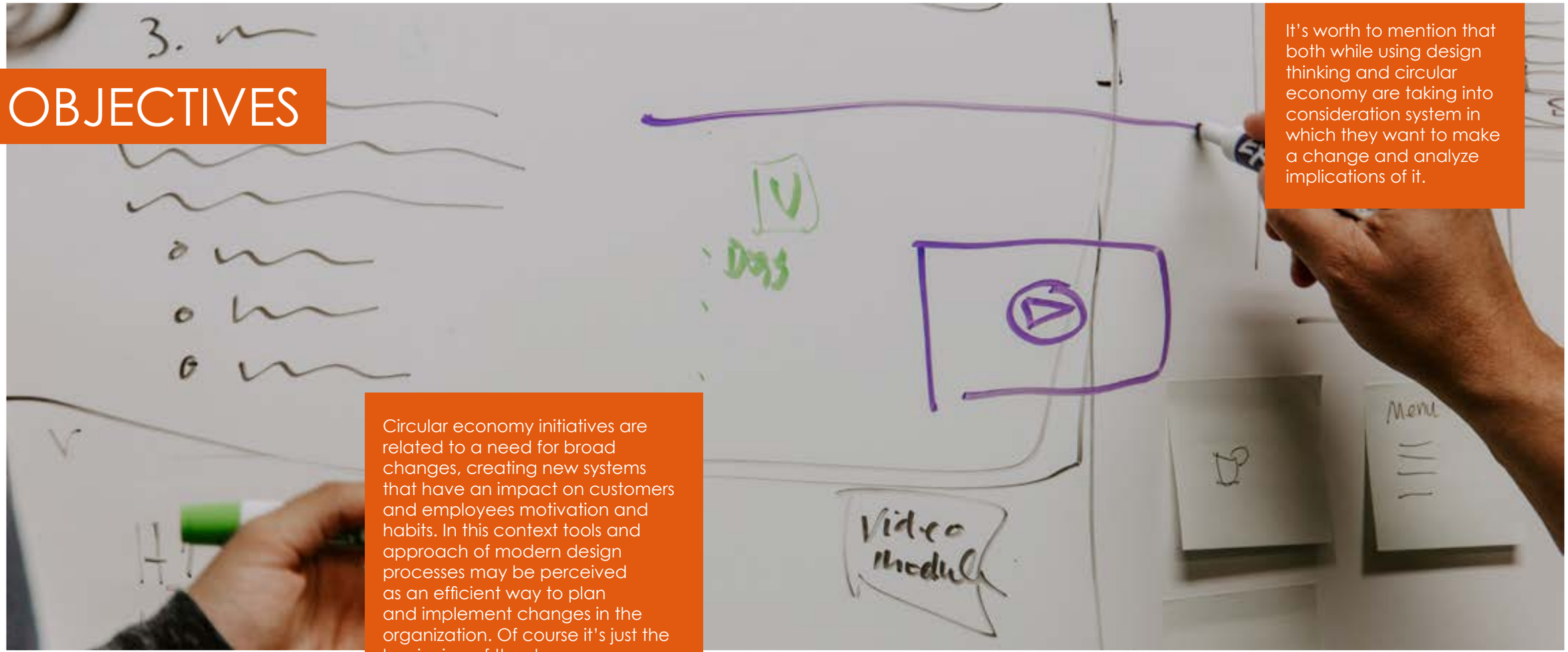

Design thinking can be considered as a systematized way of solving problems. First of all, it focuses on human needs, problems, expectations. What is worth to mention, human needs and expectations are changing nowadays rapidly, thus customer is an excellent source of inspirations. This approach reminds us that people don't need products and services but the values that they bring.

Design thinking helps to create products and services that at the same time meet users needs and enable to reach business goals. It can be used to improve an existing service/product or to create a new from scratch.

The process requires various perspectives that are assured by the multidisciplinary team. Teams need to be composed of employees from different departments, with different backgrounds, customers (optionally) as well as other stakeholders such as vendors. Working on such a team can efficiently use knowledge, generate innovative ideas.

To understand the concept of design thinking it is important to clarify that output and outcome are perceived as two different concepts. The output is interpreted as solutions (example: webpage, meeting, a new way of providing the service). The outcome, on the other hand, is the description of the new desired situation. In design thinking approach it is essential first to identify what change we want to make before we think about particular solutions.

# OBJECTIVES




It's worth to mention that both while using design thinking and circular economy are taking into consideration system in which they want to make a change and analyze implications of it.

Circular economy initiatives are related to a need for broad changes, creating new systems that have an impact on customers and employees motivation and habits. In this context tools and approach of modern design processes may be perceived as an efficient way to plan and implement changes in the organization. Of course it's just the beginning of the story.

Thus, before you will start to explore our manual get familiar with the content of materials dedicated to circular economy:

Cirtoinno Handbook
https://cirtoinno.eu/ce-handbook

**Design Thinking main objectives:**

- To immerse SMEs into the Circular Economy as a systematic process of tackling relevant business problems;
- To provide a social and thinking space for the recognition of innovation challenges and the design of circular solutions (an innovation new ventures, value propositions, new products or services.
- Using a practical hands-on approach.

Presented examples include the design of an original and feasible value proposition aligned with tourism business, tackling a particular organizational issues, the development of a new product, new service or the radical innovation of processes, the adoption of new technologies to streamline key processes or to disrupt established markets and finally exercise their foresights and insights in the process of creation.

Design thinking is much more than the process and tools. It is also a way of work with the innovation in the organization that can be an answer for complicated and ambitious challenges. Many companies still use a linear approach: produce, use, throw. Starting to work on circular economy solutions requires denying the status quo and asking challenging questions, such as What would happen if we will redesign our whole business using circular economy potential? What should we design in another way? What impact would it have on the value we create for the stakeholders?

While asking ourselves those question we challenge the business model as well as social behaviors, and role that stakeholders play. That's why design thinking helps to look for new solutions that from the beginning are defined as one that has sustainability, long term values, creating new standards and delivering business value in the DNA.
In the manual, you will find information how to prepare your organization to go through the design process as well as tools that will support you in asking the right questions and looking for the surprisingly innovative answers.

# THEME - STAGES OF DESIGN THINKING


Design thinking is composed of the following stages:

**1.Discovery**

Empathy plays a crucial role in the design thinking approach. Designers and team that participates in the process need to understand users they are designing for. Understanding of users not only means learning about their problems and needs but also their context: social, cultural, etc. Not only functional needs and expectations but also emotional one need to be recognized. For example, using a car: the practical need is to go from point A to B, while emotional can be related to the need for freedom, social status. That is why while designing circular solutions it is important to understand customers motivations associated with the impact they have on the environment and other people, how do they perceive the role in the ecosystem. As we mentioned circular approach is logical, but it is counter-intuitive for consumers who are getting used for buying cheap things that they throw away just after they are used.

In projects that are related to circular changes, engaging other stakeholders seems to be even more critical than in other cases as they are an essential part of the circular ecosystem. Their need, motivations, and expectations need to be identified and addressed at the beginning of the process.

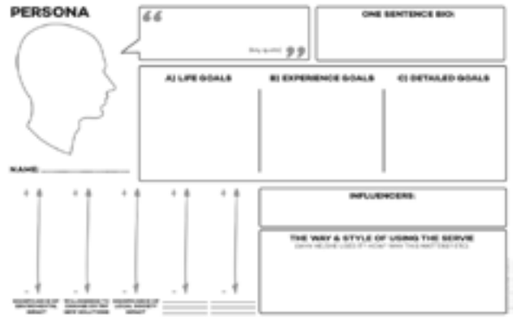
Mapping whole system inspires to think what can be the "second life" of the product. Enable to recognize relations in the system. Understanding the context, and collecting crucial data is the knowledge that will be used during the designing process.

Both qualitative and quantitative methods are used at this stage to learn about users. Numerous different techniques and tools are used to explore and understand the behavior of the people involved. Learning about users needs don't need to be expensive thus it can be used by companies regularly.

**2. Defining the problem**

It is vital to make sense of the data collected at the previous stage and make first design decisions: choosing which data are essential for the scope of the project. Thanks to the exploration phase, the project team can find answers for such important questions as what needs related to circular economy users have? What impact on humans and the environment has the current project that we redesign? What relation the customer has with a product after he/she finished to use it?

Visualizing data is one of the methods that help to find patterns. Such tools as personas, journey maps, stakeholder maps, etc. are used to make it easier to understand which problems should be addressed.




*Picture 2. Example of Persona canva*

*Picture 3. Customer Journey*

Collected information helps to name the real problem. Usually, the design problem includes the following information:
- type of the user we want to help
- the issue that needs to be changes
- an expected outcome of the change

Example: How to help conference organizers in planning their purchases so they can produce less trash.

# THEME - STAGES OF DESIGN THINKING


All main stakeholders that include customers, employees, and management, as well as engineers and designers should be involved in generating solutions.

**3. Ideation**

With the support of creative techniques, the team generates dozens of ideas on how the problem may be solved. It's about exploring as many ideas as possible and identifying problems as early as possible to learn from them. It's also about selecting just those concepts that answer real customer needs and help to achieve business goals. Ideation can be split into two phases:

- qualitative, where the main goals are to create as many solutions as possible
- quantitative, where ideas are selected according to chosen criteria and further developed

Understanding that it is normal not being right with the first idea is a necessary part of the design process. It is based on iterations and requires learning from each idea, using learning outcomes and implement them in the next solution. Implementation of new business solutions is always fraught with high risk.

At the same time having a circular approach in mind, we should develop the concept and find alternative ways of delivering the value. Circular economy framework inspired to look for better solutions that eliminate waste, business model (from product to the service), etc.

While generating ideas during the design process, very often a list of so-called quick fixes is created. Quick fixes are ideas that can be implemented in a short time without high costs and solve defined problems or satisfy needs. Keep them in notes and don't lose them during the process as they can have a significant impact.
For example, AccorHotels implemented plenty of ideas that all together make a hugs quality change. Buying products in bigger packages rather than in more smaller once, planning menu in a way that all events of for instance vegetables will be used, serving smaller portions of meals but giving a chance to refill them.

**4. Prototyping**

This stage is about iterative prototyping and testing of selected ideas and concepts. The idea behind it is to check the concept as soon as possible and learn what works well and what needs to be changed. Thus it limits the risk of implementing the idea that is not satisfying for the users.

Prototypes should deliver the answer to such questions: what experience our solution provides? What economic, rational and emotional values it gives? How solution supports a circular approach? What circular solutions related to the infrastructure, systems, and partnership required the solution?

**5. Implementation**

To generate efficient solutions and implement them, the organization should adjust itself to the changes required by the solution.

According to the design thinking approach, the product is never finished and is modified whole the time, answer new changes, is continuously developed.

The company also need to be open enough to implement changes in organizational culture and perception of its role on the market.

Prototyping is about making the concept tangible with limited resources (time, money, materials). With the use of methods such as storyboard, poster, mock-ups, leaflets, role-playing, paper prototypes ideas start to be tangible. Prototyping process helps to develop the concepts, identify risks, see new opportunities. Furthermore, it helps the whole team to understand the idea in the same way. The crucial here is to make the idea tangible with limited resources (time, money, materials). Prototypes are used for tests with users.

# CASE STUDIES

**In this part of the document, few case studies of companies that created innovative solutions based on circular economy approach are described.**

## Reduce: Simple change in product choice lowers energy consumption

**Gavarni Hotel** located in Paris has switched to towels made from organic cotton in the beige color that allows them to be washed at 30 degrees Celsius and therefore saved energy cost. Following this choice, the hotel has selected organic cotton or eco-labelled cotton, avoided excessive sizing, as well as has selected durable polyester-cotton blends or linen for bed sheets. The energy consumption of 50/50 polyester-cotton over 100 laundering cycles is 42 % lower than for pure cotton sheets because of the durability of polyester.

Learn more at:
http://www.gavarni.com/en/ecolabel-hotel-paris/

## Reuse: Coffee grounds closed in the loop

**Coffee** is a very ineffective product, because only 0.2% of it is consumed in a cup of this drink.
Rotterzwam, a Dutch company, has used coffee grounds waste to grow oyster mushrooms. Company uses the enzymes that are in these coffee grounds to create a new product suited for human consumption. The mushrooms are sold locally in restaurants and catering. Additionally, traditional Dutch snacks such as bitterballen and krokketten are made from these oyster mushrooms, creating a high-value product.

Learn more at:
https://www.rotterzwam.nl/en_US/

## Recycle: Changing waste management habits and procedures

**The Savoy hotel** in London is a classic, luxury five-star venue employing over 600 staff members. It offers 268 rooms and 62 suites, two restaurants, two bars and a tea room. In 2010 it has been reopened after major makeover and has implemented new waste recycling program. It included staff training to relearn procedures and habits, as well as daily staff briefings to incorporate environmental management topics, including waste separation, reuse and recycling. In result, over 95 % of non-food waste is now kept from landfill and unsorted waste generation for the hotel and restaurants is equivalent to approximately 0.3 kg per guest-night. Additionally, organic waste in the amount of 344 tonnes per year is separated and sent for energy recovery.

Learn more at:
https://www.thesavoylondon.com/about-us/sustainability-initiatives/

## Redefine: Tourist destination challenge redefined collectively

**Association for Car Free Tourism Destinations in Switzerland (GAST)** has been formed by entrepreneurs and inhabitants from nine Swiss villages. This association's goal is to position car free tourism as a high quality product. A ban on vehicles with internal combustion engines, as well as a general speed limit of 15 – 20 km/hour for electro-buses, electro-cars and electro-taxis, helps to ensure a relaxed atmosphere and preserve the natural surroundings. As a consequences this destinations are considered as unique because of the tranquillity, clean air and extended space for pedestrians and nature.

Learn more at:
https://www.auto-frei.ch/index.php/en/


# EXERCISE

# 1. OBSERVING AND PLANNING

**Application of the PDCA model to design thinking**

Design thinking is much more than just a set of tools and canvas; it is about understanding human needs and answering them while creating circular products or services. What is important to emphasize, both user and providers need should be recognized and considered during the designing process.

It is a useful set of methods for companies that look for innovation in their business. Wherever the entrepreneurs meet "wicked problems," design thinking is an approach that could help to find a satisfying answer. It means we can use it to improve the way of supply chain planning, the way the organization arranges furniture in its hotel, the way the spa-staff provides services, etc.

Design thinking is a mindset, and it requires proper organizational culture: open for experiments, ready for the continuous learning process, open for real interdisciplinary teamwork and not afraid of trying and making mistakes. Just then it can support companies' growth efficiently. Projects based on this methodology should be just the beginning of more significant organizational change.

Thus before starting to implement the methodology, it is worth to check if we are ready to work using this approach.

However, even to start to consider if this approach is for us. First, we need to notice that the change is required. This need can come as a result of the observation of internal processes and the surrounding.

Observation plays a considerable role also when it goes about looking for inspirations. We should include activities related to learning about what we may change in our process to make it more circular.

Furthermore, we can observe customers behavior (not only our customers) can help us to see that some areas are not covered and can be beneficial or some processes should be redesigned.

You may recognize that the change is required at the level of:

- the feature of the product / particular touchpoint in the service
- one process of the service
- whole service / whole product
- new business strategy

It is worth to ask ourselves questions relevant to each level to find our which one we should focus on. List of exemplary questions is presented in Table 1.1.

Each need for the change is an opportunity to make your company more circular.

Design thinking can be highly supportive of continuously finding new meanings, both as business strategies, products, services, and the way they are used. It can help to answer the multiple-questions of why customers will buy (or why they will change behavior), clarify and make sense of things and be the catalyst to bringing insights and concepts together.

Make sure that you have all stationery materials that will be useful during the process: flipchart paper, sticky notes, markers,

Plan who from your team you would like to invite to work with you on new solutions. Take care that project team members will have different experiences. It's worth to ask people from different departments to join. On the other hand don't make your team to extended as it will make planning the meetings too complicated and also less efficient. We recommend to work in groups composed of 6 members. This size of the group enable to organize easily, at the same time enables an intense exchange of ideas.

**Table 1.1.**

| Focus | Important questions |
|---|---|
| New business strategy | • Does our business strategy help to reduce resource consumption?<br>• Does our business strategy influence waste management?<br>• Does our business strategy influence long-lasting savings for the business?<br>• Does our business strategy influence the development of innovative workplace?<br>• Who are the beneficiaries of our strategy?<br>• Who are the major stakeholders?<br>• How engaged are the employees with the strategy?<br>• How value chain is organized?<br>• Who is engaged in the value chain creation?<br>• Does our strategy response to circular economy business model?<br>• What is the most important impact of our business on the environment in the value chain?<br>• What's going on with the wastel generate?<br>• Are any circular economy activities provided by our stakeholders including local community and authorities? |
| Products improvement | • Which attributes of the product are attractive to the users?<br>• How profitable is the product?<br>• Is the reduction of a product waste profitable?<br>• Is raw materials management optimal when manufacturing the product?<br>• How different is the product compared to those following a "linear" production model?<br>• How different is the product compared to what other products produced according to "circularity"?<br>• Who buys the product today?<br>• Who are the potential users of the product? What is their attitude to a circular economy?<br>• How engaged are the employees in the product – current (linear) and potential (circular)? |
| Services improvement | • Which attributes of the service is attractive to the users?<br>• How profitable is the service?<br>• How different is the service compared to "linear" competitors offering?<br>• How different is the service compared to "circular" competitors offering?<br>• Who buys the service today?<br>• Who are the potential users of the service? What is their attitude to a circular economy?<br>• How engaged are the employees in the service – current (linear) and potential (circular)? |

**After you will recognize that there is a need of change we need to observe our organization to find an answer if we are ready to work with use of design thinking approach. If we are positive, we can start to define how to plan it so it will fit our organizational culture.**

**In the Table 1.2 some helpful questions were listed:**

| | |
|---|---|
| Scope | Have you identified which areas project will apply to (product, service, one touchpoint, feature, business strategy) |
| Skills | Is there anyone in your organization who may facilitate (has proper skill and time to play this role) the project or there is a need for an external expert?<br>Who will be responsible for all organizational aspects of the project? |
| Time | How much time your employees can spend working on the solution? how many working days you can spend on workshops? |
| Team | Who from your team can contribute to the process (be part of the core team)?<br>Will you invite external experts and customer to the process? |
| Physical space | Is there any comfortable space in your company you can use for your workshops or you need to rent the room outside the company? |
| Attitude | Are you ready for giving the power to your employees and make them responsible for the solution?<br>Are you comfortable with the fact that design thinking is learning the process so not all solutions will be the good one?<br>Are you eager to experiment?<br>Can you accept that what customers are saying is crucial for designing process? |


# 2. IMPLEMENTATION

Design thinking process implementation requires excellent openness in the company. It can bring much more value than just the concepts of new products and services. It helps to develop employees competencies, build long-term relations with customers, explore new areas of companies development, improve internal processes, etc. Preparing the organization for process implementation is essential.

You can implement in your organization the whole process: from empathy to tests and then implementation plan or just chose elements that you need most at the moment (ex. learning about users).

The process itself is very flexible. It means that you can organize two days workshop (design sprint) or make full process (ex. 8-12 weeks of work, around two days of workshops each weekend). It depends on the scope of the project, how much time you can spend working on it and your expectations. It's good to have someone who has an experience in this methodology to help you to adjust the process to your needs.

While deciding what tools you want to use you can find help on web pages dedicated to this topic that will equip you with some templates and explanations such as www.circulardesignguide.com, www.designabetterbusiness.com, www.ideocolab.pl and www.cirtoinno.eu

While implementing the process, there are a few things you should remember about.

### Build the team

You cannot go through the process on your own. To make it successful, you need to:

- find a person responsible for process facilitation and documentation
- find a person responsible for all organizational issues related to the project
- built core team who will go through the process.

### Focus on the problem to solve

Companies commonly fail to effectively solve their challenges or meet their goals because they do not correctly identify the problem. The first part of the process is concentrated on this task. The well-defined problem includes company perspective - what you want to reach (eg.: reach new target group) and users perspective their expectations, problems, etc. The process requires from you not only learn about customers but also deeply understand your organization and people working in it. As it was mentioned defining a precise problem that need to be solved is part of the process. However to start our work we need to name the scope/are we want to work on.

### Have more debriefs (or start having them)

This is the part that people have the most trouble with: it's important to understand that design thinking is a process of iterating on previous experiments so that the product can improve and become better. However, learnings need to have a feedback process to be implemented. To make design thinking works we need to create a culture in your organization that doesn't only accept mistakes but also can learn out of them. And as you can imagine it is not easy. You can start your change in at least few different ways: you may work with mistakes at the level of particular ideas or/and at the level of processes that are used in your company. The concept is explained briefly in the Table 1.3.

**Table 1.3. Steps for creating a learning culture.**

| | |
|---|---|
| 1. Being open about what went wrong | Determining what tests failed or were less successful than they could have been, and what can be improved next time |
| 2. Viewing of failure as learnings | If one approach did not work it narrows down the list of possible approaches. |

### Embrace the feedback loop

The goal of design thinking is to achieve the best answer or solution possible to a question or challenge. The best answer likely will not be the first answer; thus, there needs to be a constant loop of getting feedback and testing new assumptions. The way idea may be implemented is presented in Table 1.4.

**Table 1.4. Steps for implementing loops.**

| | |
|---|---|
| 1. Testing and iterating (as much as possible) | Finding new ways and angles to test assumptions a company might come across and would not have been likely to think of otherwise. |
| 2. Keeping frequent feedback sessions | If one approach did not work, it narrows down the list of possible approaches. |

Process implementation in few steps:

- define design challenge (what is your desired outcome)
- identify restrictions that affect the process (time, money, people possible engagement)
- find facilitator (in your organization or outside)
- prepare process that will help you to reach your goal and take into the account named restrictions
- build core team
- implement the process (remember the feedback)

# 3. CHECKING AND REVISING

Design thinking is an iterative process that is planned in a way that enables to collect new information whole the time and use them to improve the concept.

However, changes may also occur at the level of process implementation as such. It may be beneficial for the organization to monitor differences between the way process was planned and how it has finally proceeded. Analyzing the differences may help to shape the process in a way that works best for your organization.

Design thinking is a mindset, but for each scope, tools need to be chosen carefully to deliver the best value in defined frames. Therefore it is crucial to evaluate on a regular base what value used tools brought. Very often for one team/ company some tools work perfectly as for others they do not deliver the expected results. It is essential to collect this knowledge and use it when implementing design thinking process for the next time. A strong understanding of design process stages and tools and reflection on the process can contribute to an organization and can help to solve real problems – a transition from linear business model to circular model - that affect their organizations. Table 1.5 can help to monitor the process in the more systematized way.

Effective business change always depends on the team-work. Therefore design thinking methodology is used to create effective teams and to communicate complex ideas clearly within an organization and to a broader audience and garner support from their community. It is essential to observe the team and process that it faces as it can affect strongly project outcomes. While observing team members, you have a chance to find engaged employees who can be great change-makers in your organization. It's worth to collect all observations in a systematized way as table 1.6 presents.

**Table 1.5. Checking table – Design thinking process implementation**

| | | | | |
|---|---|---|---|---|
| 1 | Activities/tools planned for exploration phase | • 9 interviews with representatives of 3 users groups<br>• observations in 3 selected spots, each observation last around 3 hours | • 12 interviews with representatives of 3 users groups<br>• co-creation workshop with customers | • recruitment of planned number of in-terviewees was to hard<br>• after interviews team has decided that observations will deliver more required information than co-creation workshop |
| 2 | Activities/tools planned for defining the problem phase | | | |
| 3 | Activities/tools planned for ideation phase | | | |
| 4 | Activities/tools planned for prototyping and testing phase | | | |
| 5 | Evaluation during the process | | | |
| 6 | Communication during the process | | | |
| 7 | Circular potential of created products/servi-ce/strategies | | | |

**Table 1.6. Checking table – Team process – actions related to business strategy, products, services**

| | Actions | Implemented activities /achieved outputs | Planned activities / desired outputs | Why changes were implemented |
|---|---|---|---|---|
| 1 | Participants of the project (according to his/her background, interpersonal skills, experience etc.) | Core team will be composed with custo-mer service, accountancy, kitchen, clean | Core | |
| 2 | Moderator (role, engagement) | | | |
| 3 | Team members personal development | | | |
| 4 | External experts and users engagement | | | |
| 5 | Employees and third parties level of under-standing of circular economy | | | |

As a result of the analysis you should point our crucial changes that should be imple-mented in the next design thinking process you will proceed in your organization.

We believe that this document is just the beginning of you adventure with design thinking approach. To find further inspiration check some reliable resources we present in the table 1.7.

**Table 1.7. List of resources**

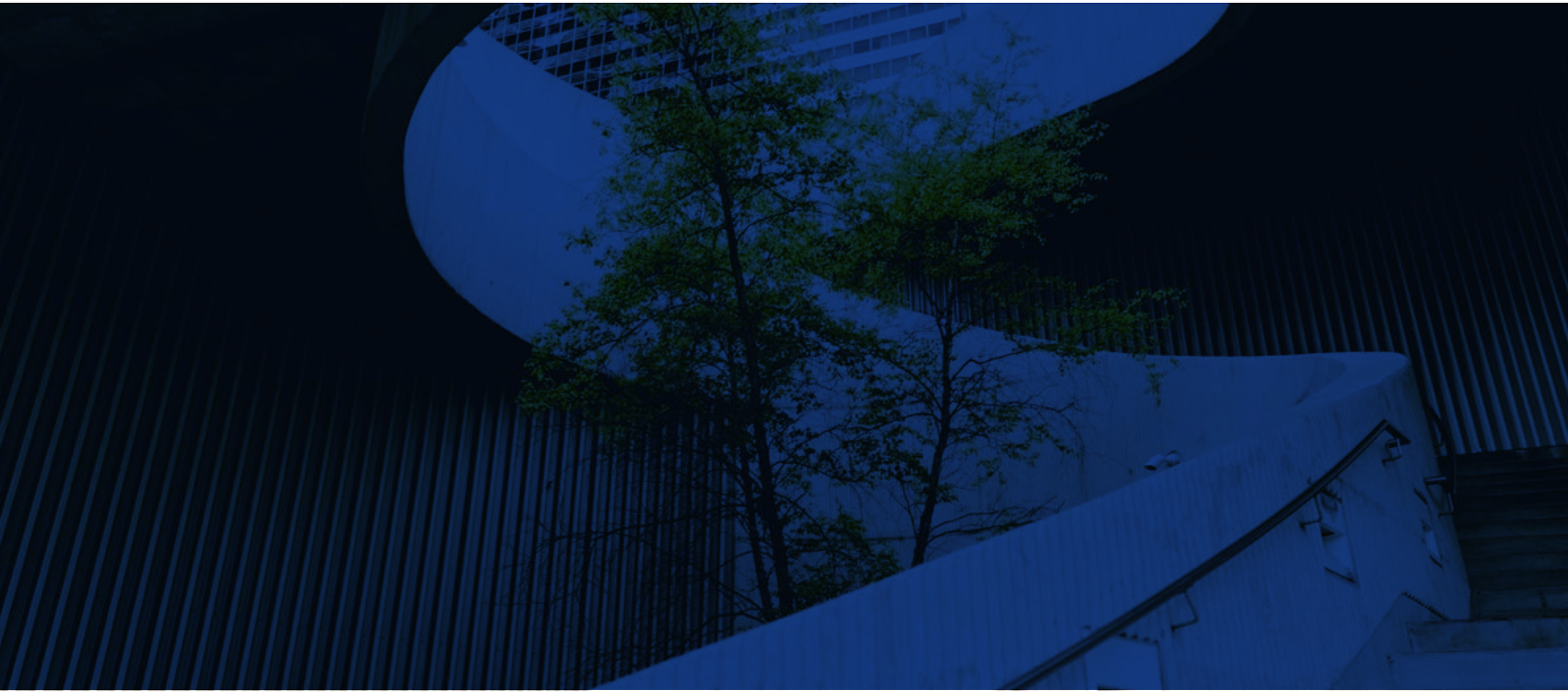
| | Resource title | WWW address | Description |
|---|---|---|---|
| 1 | Circular Design Guide | https://www.circulardesignguide.com/ | Materials (guidebook, tools, presentations) abut designing circular products and services created by IDEO. |
| 2 | Ellen MacArthur Foundation | https://www.ellenmacarthurfoundation.org/ | Ellen MacArthur Foundation - an organization with a log history of being engaged in circular economy promotion. |
| 3 | Case Studies from Europe - Ellen MacArthur Foundation | https://www.ellenmacarthurfoundation.org/case-studies/search?q=europe | |
| 4 | The circular economy: Moving from theory to practice | https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Sustainability%20and%20Resource%20Productivity/Our%20Insights/The%20circular%20economy%20Moving%20from%20theory%20to%20practice/The%20circular%20economy%20Moving%20from%20theory%20to%20practice.ashx | Report about circular economy prepared by consultany agency McKinsey Center for Business and Environment Special edition, October 2016 |
| 5 | Forum for the Future | https://www.forumforthefuture.org/blog/changing-role--designer-circular-economy | An article: The changing role of the designer in the circular economy |
| 6 | Eco Design Thinking | http://www.ecodesignthinking.com/design-thinking-applied-to-circular-economy/ | An article: A step-by-step process to put "The Circular Design Guide" into action |
| 7 | Circular Economy Asia | http://www.circulareconomyasia.org/circular-design-in--the-real-world/ | An article about circularity in practice |
| 8 | Chris Grantham: Circular Economy Portfolio Director | https://medium.com/ideo-colab/designing-a-more-circular-world-together-784feda30910 | An article: Designing a More Circular World, Together |
| 9 | Rethinking Sustainability in Light of the EU's New Circular Economy Policy | https://hbr.org/2018/07/rethinking-sustainability-in-light-of--the-eus-new-circular-economy-policy | Harvard Business Review article |
| 10 | How Businesses Can Support a Circular Economy | https://hbr.org/2016/02/how-businesses-can-support-a--circular-economy | Harvard Business Review article |
| 11 | Circular Economy Guide - Strategies and Examples | https://www.ceguide.org/Strategies-and-examples#465 | Collection of case studies, examples of implementing circular economy in business and non governmental organizations. |
| 12 | Developing products for a circular economy | https://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/developing--products-for-a-circular-economy | An article about design thinking and circular economy from McKinsey agency |

Marketing Mix of

# Circular Services

LEAD PARTNER

PARTNERS



# INTRODUCTION AND OBJECTIVE

With circular products and services in place as a result of other modules of this training, energy, business model innovation and design thinking, now it's time to get some information on how you can proceed with marketing those circular products and services. The aim here is to help you learn how to apply the PDCA method from marketing perspective.

Please have in mind that a product or service should have been chosen and changed to a circular one in previous modules. In other words, in marketing module, the effort should not be focused on identifying which product or service to choose. Instead, the focus should be on how to market the circular product or service. The marketing module's task is to market a circular-based product and service. All of your products or services of might not be circular and they can be marketed using traditional marketing ways.

# THEME CIRCULAR ECONOMY – MARKETING PERSPECTIVE

Today, the impact of tourism on the environment is considerable and poses a challenge to transit towards implementing a circular tourism economy. This transit towards CE is a fundamental shift in thinking about how tourism businesses operate.

Some companies may also think of the circular economy as taking societal responsibility. However, it is for the best of consumers and the business that the marketing approach changes to a circular one.

Here marketing plays a major role in the economy. Within the tourism business a lot of effort is put into developing current marketing concept as well as strategic marketing planning for the future.

# THEME
# CIRCULAR ECONOMY – MARKETING PERSPECTIVE

As shown in Figure 1, the societal marketing concept considers the future welfare of consumers and the strategic planning concept considers company needs in the future, while the circular economy marketin g concept considers both. It requires a comprehensive look at the design of radically alternative solutions, over the entire life cycles of products and services. It is thus not a "more of the same" approach, calling only for increased implementation of "green" technologies. It also requires considerations regarding the interactions between the environment, society and the economy in which the processes are embedded.

In this way, the regeneration becomes an improvement of the entire model of living as well as economic model compared to previous business-as-usual economy and resource management (where regeneration is focused on material or energy recovery).

| | | The business | |
|---|---|---|---|
| | | Now | Future |
| Consumer | Now | Marketing concept | Strategic planning concept |
| | Future | Social marketing concept | Circular Economy marketing concept |

Figure 1. Towards Circular Economy marketing concept (Adapted from Kotler, Armstrong & Parmetn, 2016)

# MARKETING KEYWORDS 7PS OF MARKETING MIX

**There are marketing key words that are worth referring before reading the text below.**

**Product:** The product in service marketing mix is intangible in nature. the marketer must do an extensive research on the life cycle of the service that they are creating. Marketers must ask themselves the question "what can I do to offer a better product to this group of people than my competitors".

- What does the client want from the service or product?
- How will the customer use it?
- Where will the client use it?
- What features must the product have to meet the client's needs?
- Are there any necessary features that you missed out?
- Are you creating features that are not needed by the client?
- What's the name of the product?
- Does it have a catchy name?
- What are the sizes or colors available?
- How is the product different from the products of your competitors?
- What does the product look like?

**People:** Stakeholders (Customers, target market, employees, etc.). It is important to discover whether there are enough people in your target market that is in demand for certain types of products and services.

The company's employees are important in marketing because they are the ones who deliver the service. It is important to hire and train the right people to deliver superior service to the clients, whether they run a support desk, customer service, copywriters, programmers…etc.

**Place:** Place in case of services determine where is the service going to be located. This comes with a deep understanding of your target market. Understanding of target market, will give the most efficient positioning and distribution channels that directly speak with market.
There are many distribution strategies, including:

- Intensive distribution
- Exclusive distribution
- Selective distribution
- Franchising

Here are some of the questions that you should answer in developing your distribution strategy:

- Where do your clients look for your service or product?
- What kind of stores do potential clients go to? Do they shop in a mall, in a regular brick and mortar store, in the supermarket, or online?
- How do you access the different distribution channels?
- How is your distribution strategy different from your competitors?
- Do you need a strong sales force?
- Do you need to attend trade fairs?
- Do you need to sell in an online store?

**Promotion:** Promotion is a very important component of marketing as it can boost brand recognition and sales. It shows, what needs to be done to promote the new service. (Social media marketing, digital marketing, branding, etc.)

- Sales Organization
- Public Relations: communications that are typically not paid for. Press releases, exhibitions, sponsorship deals, seminars, conferences, and events
- Advertising: communication methods that are paid for like television advertisements, radio commercials, print media, and internet advertisements.
- Sales Promotion

Word of mouth is also a type of product promotion. Word of mouth is an informal communication about the benefits of the product by satisfied customers and ordinary individuals. The sales staff plays a very important role in public relations and word of mouth.

- How can you send marketing messages to your potential buyers?
- When is the best time to promote your product?
- Will you reach your potential audience and buyers through television ads?
- Is it best to use the social media in promoting the product?
- What is the promotion strategy of your competitors?

**Pricing:** Pricing for the service and experience rather than the product. When setting the product price, marketers should consider the perceived value that the product offers. There are three major pricing strategies, and these are: Market penetration pricing, Market skimming pricing, and neutral pricing.

Steps in pricing:

- Selecting the pricing objective
- Determining demand
- Estimating costs
- Analyzing competitors' costs, prices, and offers
- Selecting a pricing method
  - Market penetration method
  - Value pricing
- Selecting final price

Here are some of the important questions that you should ask yourself when you are setting the product price:

- How much did it cost you to produce the product?
- What is the customers' perceived product value?
- Do you think that the slight price decrease could significantly increase your market share?
- Can the current price of the product keep up with the price of the product's competitors?

**Process:** Service process is the way in which a service is prepared and delivered to the end customer. It is also a critical component in the service blueprint, wherein before establishing the service, the company defines exactly what should be the process of the service product reaching the end customer.

So, you have to make sure that you have a well-tailored process in place to minimize costs. It could be your entire sales funnel, a pay system, distribution system and other systematic procedures and steps to ensure a working business that is running effectively

**Physical evidence:** Services are intangible in nature. However, to create some tangible elements are also delivered with the service. It also pertains to how a business and its products are perceived in the marketplace.

It is the physical evidence of a business' presence and establishment. A concept of this is branding. For example, when you think of "fast food", you think of McDonalds.

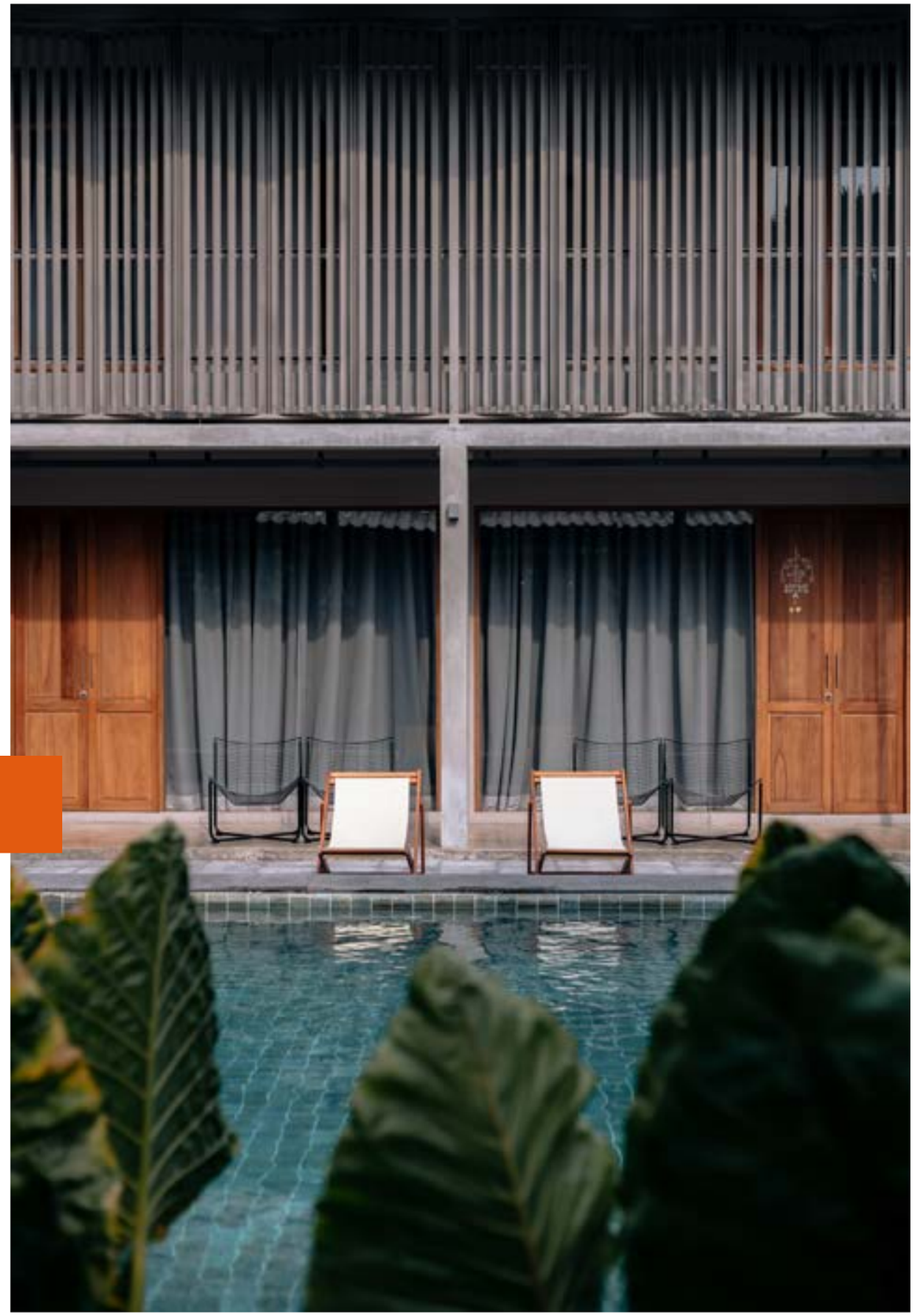
When you think of sports, the names Nike and Adidas come to mind. You immediately know exactly what their presence is in the marketplace, as they are generally market leaders and have established a physical evidence as well as psychological evidence in their marketing.

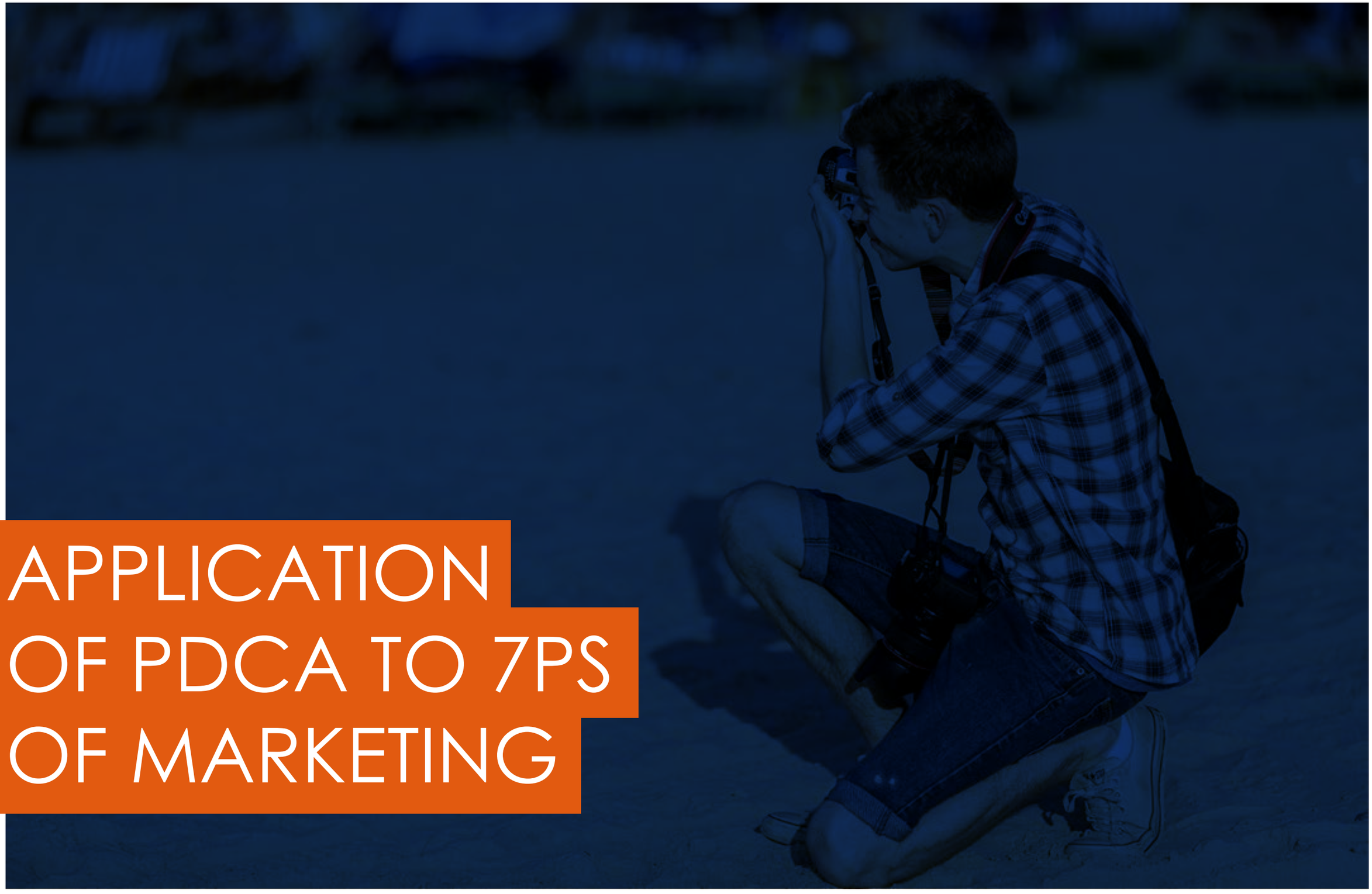
**Branding:** It is the outcome of the 7Ps. Marketing Mix (7Ps) is a tool to help determine a brand's offering. Your brand is a true representation of who you are as a business and how you want to be perceived by your customers. Hence, branding is a marketing practice and a process of creating a unique image for your business in customer's mind. It is a way of distinguishing your business from the competitors and clarifying what is unique in your offer.

# OPERATIONALIZATION OF 7PS IN THIS PROJECT

Each company should have done its PDCA assignment (for instruction on PDCA see section introduction to PDCA) in previous modules of energy, business model innovation, and design thinking prior to attending at marketing session. Having done that, the company has chosen one or few products/ services to make them circular. Hence, the product is decided and it reduces the 7Ps to 6Ps.

Then, in the context of service, Place and Physical evidence are very similar although one can count some differences. Accordingly, for the sake of simplicity, place and physical evidence have been considered as one item. Consequently, 7Ps of marketing is reduced to 5Ps of People, Promotion, Pricing, Process, Place.





# APPLICATION OF PDCA TO 7PS OF MARKETING

# OBSERVING AND PLANNING PARTS

**1. Observing part**
Understanding and keywords were presented in section one. The 7Ps of marketing mix were described in detail. These 7Ps will be used in this section to map marketing activities of a company. Observing is a stage to map the processes. Mapping can be done through three stages. In the first stage, marketing activities need to be identified. In the second, the output of those activities needs to be assessed. In the last stages, those processes that do not add value and need to be changed will be identified for further action.

Hence evaluate the following questions:

- Which marketing activities the company have today?
- What output those activities generate?
- Which of those activities need to change?

### Product
A product can be physical or in the form of a service. The goal is to use suggested questions above to choose products that have value and market them to customers. For example, products such as Hilton mattress (light stay) or recyclable soap or services such as electric cars for guests' transport.

### People
Success of a product marketing is dependent on people. Here people mean different stakeholders such as employees and customers. For instance, career days and vocational training information for young people to apply for apprenticeships in hospitality industry at Hilton hotels.
*http://cr.hilton.com*

The QHotel Group's effort to reduce employee travel through increased development of webinars (applications trainer) skype/conference calls and number of hotels with car share options.
*https://www.qhotels.co.uk/about-us/responsible-business/people-engagement/*

### Place
The aim is to work on product placement, presentation and product availability physical or on the web. For instance, promoting using local products through coffee displays and information about it in Hotel Plaza Colón in Granada.
*http://hotelplazacolon.com/wp-content/uploads/2017/10/Diseño-Sostenibilidad-3-01.jpg*

Or the electricity saving sign at Statler Hotel at Cornell.
*http://www.greenhotelier.org/wp-content/uploads/2015/06/com-sust-lights-e1435050881414.jpg*

### Promotion
An example of promotion is communicating CSR activities between hotel employees as part of a welcome pack and instructions at Oulton Hall, Slaley Hall, Mottram Hall, Belton Woods and Dunston Hall.
*https://www.qhotels.co.uk/about-us/responsible-business/people-engagement/*

Another example is Sweetgreen promoting their fresh and sustainable food ideology through social media campaigns.
*https://thrivehive.com/wp-content/uploads/2017/07/examples-of-social-media-campaigns-sweetgreen-copy-min.png*

### Pricing
The aim is neither to charge a high price (that few customers accepts) nor a low price resulting in low company profit. In doing this, the company should consider costs, other players on the market, and customers. The aim is to use circular economy to reduce the costs in long term as well. For instance, getting consumers involved by putting the towel reuse sign on.

### Process
The aim is to map the current process of delivering products or services to the customers with the help of employees and suppliers. For example, the Hilton Worldwide has a mattress recycling program for Setra model and box springs. Almost 85% of previously landfilled mattresses are recycled as a result of this program.
*http://www.greenhotelier.org/our-themes/waste/hilton-worldwide-announces-mattress-recycling-program/*

Another example is recycling mattress through a mattress donation program:
*https://www.tuck.com/mattress-disposal/*

### Physical evidence
Physical evidences are required to give a tangible feeling to customers. It is of utmost importance for marketing of services. Movenpick hotel follows an eco-friendly and fair-trade purchase policy. For instance, their coffee products are FAIRTRADE certified.
*https://www.movenpick.com/fileadmin/files/Hotels/Saudi_Arabia/Yanbu/Overview/Sustainability_Plan_2017.pdf*

Another example is the display of sustainable certifications at Intercontinental hotel, San Francisco.
*http://4.bp.blogspot.com/-pBVgQpe-K9wM/To6VAefOG-I/AAAAAAAAAkk/MpcKQq4CeVs/s1600/IMG_0554.JPG*

**2. Planning part**
In this section, planning on how to deal with the mapped activities will be presented. Answer to the first question which gives marketing activities are the 7Ps of marketing mix. The table below contains 7Ps marketing mix, and it suggests questions to assess output of marketing activities.

See section PDCA tables for a tabular format presentation of observing and planning parts on 7Ps of marketing.

# IMPLEMENTING

Implementation stage begins after doing a rigorous planning toward circular economy. Following items show implementation of marketing processes.

Marketing should be circular in nature!!! In the marketing module, the outcome of implementing plans will be building or improving brand.

See section PDCA tables for a tabular format presentation of implementation part on 7Ps of marketing.

# CHECKING AND REVISING

**These two stages are different. The first is checking. The assigned people in planning phase do checking.**

Gaps found in checking stage are the input for current stage. Analysis on each action shows if the activity should be stopped or not, if the decision is to stop the activity then it will be dropped otherwise it will be continued. Documentation is the next action in this stage which not only helps organization to decide on actions based upon outcomes but also keeps knowledge in organization. The last action in this stage is education. This action is necessary to settle down PDCA policy in an organization. Education is also necessary to ensure continuous development which is in nature of PDCA.

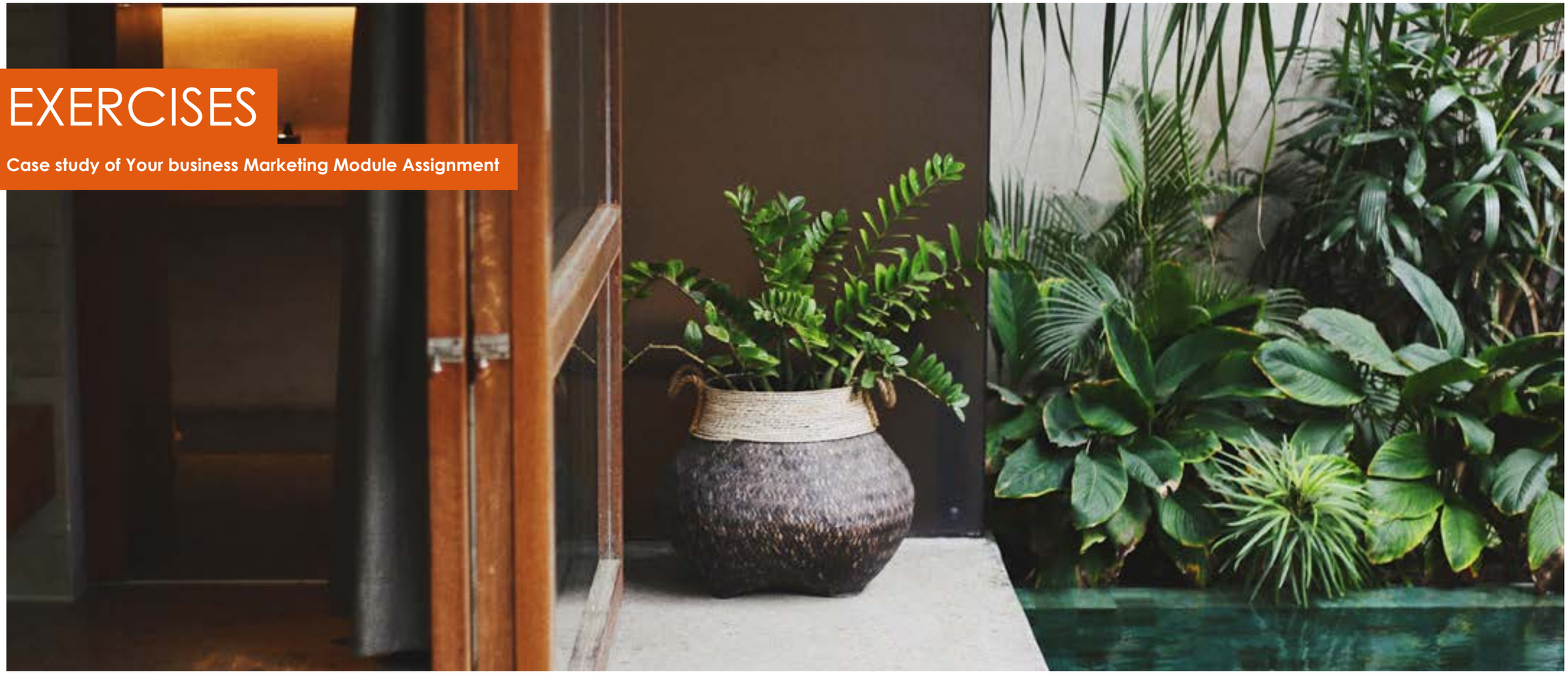
- How to self-audit and/or external audit on outcomes of marketing activities
- How to identify marketing-related processes that need to be changed or improved

- How to make and then periodically review a checklist for the actions taken towards circular-based marketing activities and the actors involved
- How to educate the involved actors in circular-based marketing activities

Planned outcomes will be checked against achieved outcomes. The difference between these two show deviations from plan. Accordingly, actions will be decided. Actions will be decided based on the gap between planned and achieved outcomes.

# EXERCISES

**Case study of Your business Marketing Module Assignment**



**Purpose:** The goal of this case study is that you begin applying PDCA methodology and 7Ps of marketing mix as a tool to do marketing on your circular economy-based products or services.

**Goals:**

1. The pre-requisite here is that you have chosen one or few products/services to make them circular in the other modules of this training for instance Energy, Business model innovation or Design thinking. In marketing module, you will apply 7Ps of marketing mix on PDCA method.
2. Application of 7Ps of marketing mix on PDCA method clarifies how you should observe, plan, do, check, and act for your promotion, process, people, place, and price.
3. By using the PDCA tables, you will learn how to apply principles of PDCA on marketing activities of your company.
4. If you already have marketing in place then you assess the plan. You assess your plan to check if you need to change your marketing activities to work on your products/services. Also, how to change those existing marketing services.

# PDCA TABLES

This section contains tables that shows how PDCA methodology should be applied to 7ps of marketing. Description of the 7Ps of marketing, and also PDCA methodology is given before. The first column includes 7Ps of marketing and the right column give example questions to measure output of Ps. Number of actions are not fixed and it can be as many as necessary.

**Table 1: Observing part in PDCA**

| Marketing objective | Output measurement |
|---|---|
| 1- Product | Product /service should be chosen from earlier training modules (design thinking, business model innovation, and energy). This product /service should be worth marketing. Think of:<br>• What attributes of the product is attractive to the customers?<br>• How profitable is the product?<br>• How different the product is compared to competitors offering? |
| 2 - People | • Who are major stakeholders of the product?<br>• Who buys the product today?<br>• Who will buy the new circular product?<br>• How engaged are the employees with the product? |
| 3 - Promotion | • Which different marketing channels do we have access to reach consumers?<br>• How effective are the current promotion strategies? |
| 4 - Pricing | • What does the pricing of the product look like?<br>• Is pricing based on a systematic approach?<br>• Does the customer accept your pricing scheme?<br>• How is the pricing compared to the pricing of other players on the market?<br>• Does the current pricing model result in a profit for the company?<br>• How influential is suppliers' pricing in determining the company's pricing? |
| 5 - Process | • How is the current product is delivered to the customer?<br>• How engaged are the suppliers with the process of delivering the product?<br>• How engaged are the employees with the process of preparing the product? |
| 6,7- Physical evidence / place | • How do we provide physical evidence for the product?<br>• How well suited is the placement of product?<br>• How reachable are products for customers?<br>• How effective is the current physical evidence in the eye of the consumers? |
| Action based on 7ps (change, drop, keep) | In the end, after assessing the product/service during different stages of observing final decision needs to be made. It can be keeping the product or service, changing it, or dropping it and choosing another product/service. |

**Table 2: Planning part in PDCA**

| **Marketing 7Ps** | **Actions:** Which actions are required to reach the desired objective? | **Timeline:** When does the plan start? How long does the plan take to accomplish? When will be the finished date? | **Actors involved:** Which group of staff are involved in working with this objective? Who will perform the job? Who will monitor the process? | **Resources:** Financial resources, other resources |
|---|---|---|---|---|
| Changes related to people | | | | |
| Changes related to Promotion | | | | |
| Changes related to Pricing | | | | |
| Changes related to Process | | | | |
| Changes related to Place/ Physical evidence | | | | |

**Table 3: Do (Implementation) part in PDCA**

| | TIMELINE | People to implement | People to supervise | People to collect data |
|---|---|---|---|---|
| Actions related to changing People | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| ACTION 4 | | | | |
| Actions related to changing Promotion | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| ACTION 4 | | | | |
| Actions related to changing Pricing | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| ACTION 4 | | | | |
| Actions related to changing Process | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| ACTION 4 | | | | |
| Actions related to changing Place / Physical evidence | | | | |
| ACTION 1 | | | | |
| ACTION 2 | | | | |
| ACTION 3 | | | | |
| ACTION 4 | | | | |

**Table 4: Checking part in PDCA**

| | Achieved Outcomes / Actual outcomes | Planned outcomes / Desired outcomes | Deviations/ Gap |
|---|---|---|---|
| Checking outcomes of Actions related to changing People | | | |
| Corrective Action 1 | | | |
| Corrective Action 2 | | | |
| Corrective Action 3 | | | |
| Checking outcomes of Actions related to changing Promotion | | | |
| Corrective Action 1 | | | |
| Corrective Action 2 | | | |
| Corrective Action 3 | | | |
| Checking outcomes of Actions related to changing Pricing | | | |
| Corrective Action 1 | | | |
| Corrective Action 2 | | | |
| Corrective Action 3 | | | |
| Checking outcomes of Actions related to changing Process | | | |
| Corrective Action 1 | | | |
| Corrective Action 2 | | | |
| Corrective Action 3 | | | |
| Checking outcomes of Actions related to changing Place / Physical evidence | | | |
| Corrective Action 1 | | | |
| Corrective Action 2 | | | |
| Corrective Action 3 | | | |

**Table 5: Revising part in PDCA**

| | Analysis of gap<br>Why is there a gap between planned and achieved outcomes? | Continue / Drop / Redo<br>Continue with the action if the planned outcomes are close to achieved outcomes<br>Drop the action if there is no value with the action or it will never generate results.<br>Redo the action if the gap between planned and achieved outcomes are big. | Documentation<br>Document outcomes and prepare a report of the action | Educate<br>In case the outcomes are acceptable, standardize the action and educate subordinates how to do the action. |
|---|---|---|---|---|
| Revising outcomes of Actions related to changing People | | | | |
| Corrective Action 1 | | | | |
| Corrective Action 2 | | | | |
| Corrective Action 3 | | | | |
| Revising outcomes of Actions related to changing Promotion | | | | |
| Corrective Action 1 | | | | |
| Corrective Action 2 | | | | |
| Corrective Action 3 | | | | |
| Revising outcomes of Actions related to changing Process | | | | |
| Corrective Action 1 | | | | |
| Corrective Action 2 | | | | |
| Corrective Action 3 | | | | |
| Revising outcomes of Actions related to changing Pricing | | | | |
| Corrective Action 1 | | | | |
| Corrective Action 2 | | | | |
| Corrective Action 3 | | | | |
| Revising outcomes of Actions related to changing Place / Physical evidence | | | | |
| Corrective Action 1 | | | | |
| Corrective Action 2 | | | | |
| Corrective Action 3 | | | | |

# CASE STUDY

**Example of Marketing of circular economy Hotel Guldsmeden Aarhus – Denmark**

Guldsmeden is a hotel with locations in Aarhus, Bali, Berlin, Copenhagen, Oslo, Reykjavik, and Cote D'Azur. Guldsmeden is part of "I love eco hotels" network which people can search and find ecotourism hotels. This hotel chain uses different online and offline marketing channels to communicate its sustainability as well as circularity to its customers. Hotel Guldsmeden in Aarhus offers three different rooms situated in the main building or annex with shared or private bathroom.

**Website Design**

This hotel has a website with a nature theme. Visitors hear a bird singing when they click on the hotel logo. Also, there are big pictures on the homepage encouraging visitors to click and learn about the hotel. For instance, one of the first pictures take the user to lush garden, candles, and sheepskin throws which market the hotel as a relaxing place. Other pictures take the customers to hotel rooms with emphasis on light color and use of sunlight in a French colonial or Balinese style. Breakfast is also focused in one of the pictures and it gives more information on the choice food.

**Cleaning, drinks, food, lighting, materials, and transport**

There is considerable amount of information on the choice of food, bathroom equipment, and sustainable means of transport.

Information shows that the food and drinks choice are 100% organic, seasonal, and sourced locally and it serves in the garden of the hotel. This hotel has a zero-waste policy in restaurant and kitchen. Small plates at the buffet encourages more moderate consumption, and the careful weighing and sorting of all food waste. In addition, they have a small storage with selected organic snacks and drinks in the room.

In the bathroom there are organic and environmentally friendly products from "I Love Eco Essentials". Their bathroom products are free of micro plastics and in bottles made from collected consumer plastic and recyclable. All linens in the bathrooms and bedrooms are made from organic cotton. Lighting in public areas is movement sensitive and guests are urged to conserve energy by turning off lights and heating when not needed. Lighting in public areas is movement sensitive and guests are urged to conserve energy by turning off lights and heating when not needed.

It is worth adding that they re-use almost everything in the old building in renovation. Also, they make sure to communicate it to the public both by product placement in their restaurant and the hotel and also through social media.

**Sustainability management**

This hotel chain does not publish a conventional sustainability report. Instead, they have sustainable management plan comprised of different sectors which is published and available on Internet.

This an annual Sustainability management Plan for all their hotels covering 4 main categories: I – Environmental II – Socio-cultural III – Quality IV – Health & Safety. These four areas cover the long-term plan policies of the company.
The hotel chain promotes Green Globe certification. This certification committee audits hotels once every year and demands 5% improvement on given areas to ensure continuous work toward sustainability. They are also Golden Ø certified by government of Denmark indicating that they serve at least 90% organic food. They have achieved this level in all other countries as well.
In addition, the purchasing policy of the group is available to read and it clearly focuses on circular economy principles such as use of renewable resources, circularity of the material use, systematic thinking, and resilient collaboration with suppliers, government, and other stakeholders.

**Social Marketing**
The company supports disadvantaged children and anti-human trafficking contributions from their booking site and bicycle hire income and through the Danish Sports Federation and others.

They participate in different research projects such as the Green Conversion research project devised by the Alexandra Institute, which studies what guests take home with them following a sustainable hotel experience. Among other things, the survey demonstrates how crucial it is for management to show the way when it comes to nurturing a focus on green values. Promoting the sustainable mindset is just one of the things that has been successfully achieved at Guldsmeden Hotels, first and foremost at employee level.

**Social media marketing and public relations**
The hotel chain is popular on social media. They actively share social, political and environmental issues that they find important on different social media platforms they are active on. The person who is in charge of their communication, social media and PR is also the person in charge of the environmental accreditations and certification by Green Globe Certification and this way they make sure that there is no risk of lack of information communicated to the stakeholders specially the guests and their target market regarding the sustainability efforts of the hotel group. Their managerial staff continuously take part in different interviews and communicated their sustainable practices to public audience.
The hotel chain is followed by over 11 000 people on Facebook and they have 17 500 followers on Instagram. They have more than 3 400 visitors on Pinterest per month. They actively share information on Linked in. On Linked in, they share business related information such as joint venture and new technologies. Statistics gathered on February 6th 2019.
Advertising is not one of Guldsemden's marketing tools. They depend on editorial publicity, website, and social media. They network and make partnership with similar sustainable green hotels such as Green Solution House in Bornholm.

**Customer Involvement**
Customers are actively involved in Guldsmeden hotels. They encourage their guests to support their cooperation with the Children´s Heart Foundation, whom they have supported since 2008.
They give hotels-specific "newspaper" to their guests with practical information on how to make their stay as environmentally low-impact as possible. They also ask their guests to share their tips and ideas with the hotel on recycling and sustainability to improve their hotel practices constantly. So, they co-create these sustainable practices with their guests.
At the bottom of the page there is a section for increasing knowledge of the visitors and taking them to "10 tips for sustainable travelling". Furthermore, sustainability initiatives of the hotel are easy to find when visitors decide to book the hotel and they are listed as bicycle rental service, ecological cleaning products, energy saving light bulbs, motion sensors lights, towel change on request, waste recycling, and water flow reducers.

**Further readings on Hotel Guldsmeden (Accessed: 2019-03-25):**

**Guldsmeden Hotels:**
https://guldsmedenhotels.com

**I Love Hotels:**
https://www.iloveecohotels.com/

**Purchasing policy of the group:**
https://guldsmedenhotels.com/wp-content/uploads/2018/07/Guldsmeden-Hotels-purchasing-policy-final.pdf

**Sustainable management plan:**
https://guldsmedenhotels.com/wp-content/uploads/2018/07/GuldsmedenHotelsSustainableManagementPlan.pdf

https://tellingnesager.com/hip-hotel-taenker-miljoevenligt/

https://greencitytrips.com/lulu-guldsmeden-hotel-berlin-interview-marc-lorenz/

https://www.mochni.com/eco-hotel-axel-guldsmeden-located-in-downtown-copenhagen/

# EXERCISE PART II

Imagine there is a restaurant in a coastal area that serves seasonal food. This restaurant is about to change its food waste management to a circular model. The following tables show how the restaurant's management should apply PDCA principles to change this process to circular. Actions described in the following tables are selective and they do not cover all the necessary aspects of a complete PDCA application. The aim is to show how planers should think in each stage of plan, do, check, revise and educate. This restaurant has enough staff, time, and other resources necessary to apply changes. One example is that from the left overs in the restaurants they make compost for the plants in the building or they make granola from left over bread loaves.

**Table 2: Planning part in PDCA**

| **Marketing 7Ps** | **Actions:**<br>Which actions are required to reach the desired objective? | **Timeline:**<br>When does the plan start?<br>How long does the plan take to accomplish?<br>When will be the finished date? | **Actors involved:**<br>Which group of staff are involved in working with this objective?<br>Who will perform the job?<br>Who will monitor the process? | **Resources:**<br>Financial resources, other resources |
|---|---|---|---|---|
| Changes related to people | Training restaurant staff about waste management and re-use of leftovers | Before the high season – January to March | The chef, cooks, and the waiting team – This will be outsourced to third party training companies and the municipality | X Euros – 30 hours for the chef and the cooking team – 10 hours for the waiting staff |
| Changes related to Promotion | Starting social media pages for the company and announcing the innovative ideas of food reuse and recycle implemented in the restaurant with daily reports/ news/photos and videos | Continuously | One employee who is responsible for public relations or social media management of the company | 2 hours per day for one staff |
| Changes related to Pricing | No change in food price since waste of food can be used as a source of income to cover expenses for food waste management services | | | |
| Changes related to Process | Selection of food waste management companies to collect and transport food waste | In the beginning of the plan Once can be done and used continuously | Recycling company | Financial resources and Staff |
| Changes related to Place/ Physical evidence | Putting signs in the restaurant to show the customers where their food comes from and how restaurant tries to reduce waste and re-use left overs | Everyday | Staff in the restaurant | Human resources – Chalk boards, markers and notes |

**Table 3: Do (Implementation) part in PDCA**

| Corrective action | TIMELINE | People to implement | People to supervise | People to collect data |
|---|---|---|---|---|
| | | Actions related to changing People | | |
| Training the chef and the cooking team | January | A third-party company expert in minimum-waste cooking and innovative ideas in re-using left-overs | Restaurant manager / educators | Restaurant manager |
| Training waiters and waitresses | January | A third-party company expert in how to separate food waste from the tables so that they can be re-useable or recycled properly | Restaurant manager / educators | Restaurant manager |
| | | Actions related to changing Promotion | | |
| Starting social media pages for the company and reporting what is happening in the restaurant regarding innovative ideas of food reuse and recycle | From February | Public relations or social media responsible person | One employee | One employee |
| Finding relevant social media influencers to come and try the restaurant and promote it | From February | Public relations or social media responsible person | One employee | One employee |
| | | Actions related to changing Pricing | | |
| | No change | No change | | |
| | | Actions related to changing Process | | |
| Selection of food waste management company to collect and transport food waste | January | Food waste management company, employees who sort the food waste | One employee | One employee |
| | | Actions related to changing Place / Physical evidence | | |
| Buying chalk boards to give information about the food in the restaurant and what happens to the leftovers | From January | The restaurant staff | Restaurant manager | The restaurant staff |
| Changing the menu in a way that it shows the circularity of the food | From January | The chef and a design/printing company | Restaurant manager | The restaurant staff |

**Table 4: Checking part in PDCA**

| Corrective action | Achieved Outcomes / Actual outcomes | Planned outcomes / Desired outcomes | Deviations/Gap |
|---|---|---|---|
| Checking outcomes of Actions related to changing People | | | |
| Training the chef and the cooking team | 80% of staff attended the education | 100% of staff was supposed to participate | 20% is deviated from the plan |
| Checking outcomes of Actions related to changing Promotion | | | |
| Starting social media pages for the company and reporting what is happening in the restaurant regarding innovative ideas of food reuse and recycle | Attracting 5000 followers on the Instagram page of the company | Attracting 5000 followers on the Instagram page of the company | None |
| Increasing the number of customers who became interested in the company through its social media pages | Attracting between 20 to 30 customers per month from the followers of the company on social media | Attracting 50 customers per month from the followers of the company on social media | 20 to 30 more followers should be attracted to become actual customers |
| Checking outcomes of Actions related to changing Pricing | | | |
| Corrective Action 1 | No change | | |
| Checking outcomes of Actions related to changing Process | | | |
| Selection of food waste management company | Actual performance of the waste management company in terms of price for services, timeliness, and environmental concerns | Expected performance of the waste management company in terms of price for services, timeliness, and environmental concerns | Room for improvement: using renewable energies for recycling trucks, improving effectiveness of collecting services by using more advanced machines, reducing prices by holding a tender |
| Checking outcomes of Actions related to changing Place / Physical evidence | | | |
| Adding new methods of informing customers about the circularity of food at the restaurant | The waiting team explains the circular food system of the restaurant to all customers | All customers should know about the circular food system of the restaurant when they leave the restaurant through different methods of information sharing (explanation from the waiting team, the boards, the chef's recommendation, etc.) | A few more methods of informing customers should be added |

**Table 5: Revising part in PDCA**

| Corrective Action | Analysis of gap<br>Why is there a gap between planned and achieved outcomes? | Continue / Drop / Redo<br>Continue with the action if the planned outcomes are close to achieved outcomes<br>Drop the action if there is no value with the action or it will never generate results.<br>Redo the action if the gap between planned and achieved outcomes are big. | Documentation<br>Document outcomes and prepare a report of the action | Educate<br>In case the outcomes are acceptable, standardize the action and educate subordinates how to do the action. |
|---|---|---|---|---|
| Revising outcomes of Actions related to changing People | | | | |
| Training the chef and the cooking team | The company didn't have enough human resources to cover for everyone in the restaurant while staff is in training | Continue the training for the remaining of staff | The training material should become part of company's guide and rules for new kitchen staff | The training material should be used for education of new kitchen staff and also current kitchen staff should be trained on a regular basis to know about advances and innovations in reusing food waste and left-overs |
| Revising outcomes of Actions related to changing Promotion | | | | |
| Increasing the number of customers who became interested in the company through its social media pages | The gap is due to lack of time needed to attract new customers from social media pages | Redo.<br>Do brainstorming with staff on what to do.<br>Allocate more time to check social media posts photos and information.<br>Ask customers about social media pages of the company and how the engagement can be increased | Prepare a corrective action report with strategies to increase number of customers who get to know about the restaurant from social media | Share the report between staff and teach the strategies to staff |
| Revising outcomes of Actions related to changing Process | | | | |
| Selection of food waste management company | The actual performance deviates from expected performance because of the recycling company. | Drop.<br>Maintain a tender and find replacement for the waste management company | Prepare tender documents based on the performance expected from the prospect company and existing solutions in the market | Educate one staff with the requirements from waste management company and how to hold request for a tender |
| Revising outcomes of Actions related to changing Pricing | | | | |
| Corrective Action 1 | No change | | | |
| Revising outcomes of Actions related to changing Place / Physical evidence | | | | |
| Adding new methods of informing customers about the circularity of food at the restaurant | The gap is due to heavy work load of restaurant employees where sometimes there is no time to explain the circularity of the restaurant or due to lack of interest from customers to know about it | Redo.<br>Do brainstorming with staff on what other innovative methods can be used to show and educate customers about the circularity of food in the restaurant and make them interested in knowing about it. | Write an action plan for adding physical evidence of circularity in the restaurant so that the customers see it and also write a guideline for the waiting team on how to inform customers in an interesting and not time-consuming way. | Educate the restaurant staff, and also the customers. |

# TRAINING MATERIAL

Starting the Journey to

# Circular Economy

LEAD PARTNER

Agencja Rozwoju Pomorza S.A.

PARTNERS

KLAIPĖDOS PREKYBOS, PRAMONĖS IR AMATŲ RŪMAI

energikontor sydost

IMP

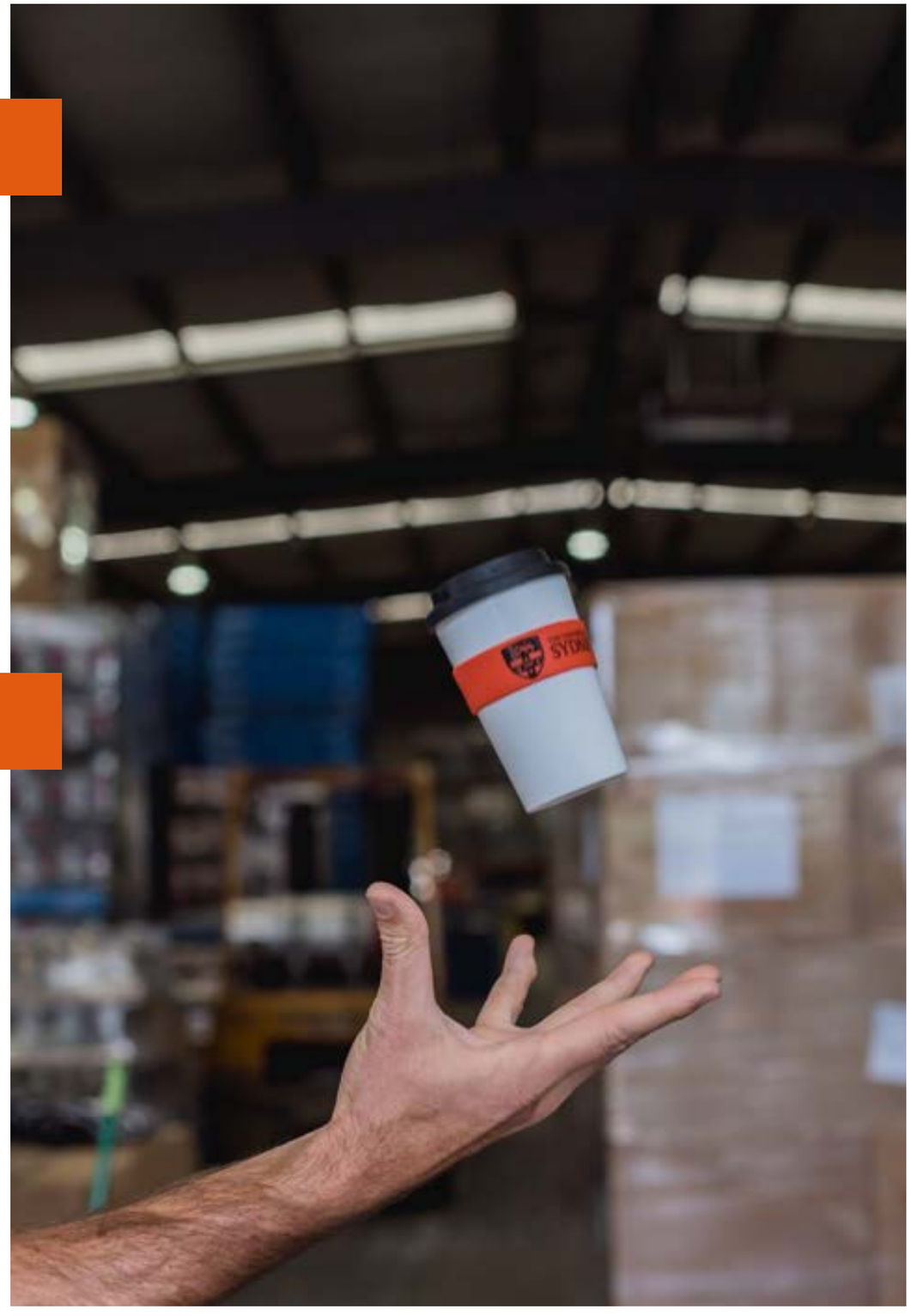
CRT CENTER FOR INDUSTRIAL & TOURISM RESEARCH

Linnaeus University

# INTRODUCTION

By Circular Economy Module we wish to raise knowledge, shape the right attitudes and inspire to implement the concept of circular economy in small and medium-sized enterprises from the tourism industry of the southern Baltic Sea region. Knowledge about mechanisms and benefits of the functioning of an innovative company in the Circular Economy promoted, among others by the EU and Poland - should make it easier for you to follow next modules of CIRTOINNO workshops.

The training can be delivered to decision-makers as well representatives responsible for e.g. energy efficiency of a building, supplies of materials, kitchen operation, etc.
Circular economy is a general concept that influences all the aspects of the business. It is recommended that participants of the training be able to convey this idea to the whole company's team.
An introduction to the circular economy should be the first to attend before other workshops of CIRTOINNO project



# OBJECTIVES

The goal of the workshop is to present effective mechanisms of business management in the aspect of promoting the CE concept, and thus increasing the level of innovation organisations.
The workshops is divided into three parts:

- Presentation of the CE assumptions (discussion of the CE idea, presentation of CE in the world – legal initiatives, specific CE practical principles.
- Discussion of the Circular Economy model in the economic, environmental and social aspect in order to effectively implement the CE assumptions in tourism SMEs. Exchange of experiences will be supported by real-life examples from tourism sector.
- Presenting tools and instruments supporting implementation of CE in tourism and among them - the EREK (European Resource Efficiency Knowledge Center) tool aimed at the effective use of raw materials in the area of water, waste, energy and materials management.

Furthermore, participants should be able to:

- assess development opportunities for innovative products and services
- prepare for the effective management of waste, raw materials, products,
- increase the attractiveness of a brand
- strengthen links with the business environment and clients

# WORKSHOP AGENDA

**DAY I** – 9:00-15:30

| Time | Topics |
|---|---|
| **Introduction** | |
| 09:00 - 09:15 | Getting to know each other (the trainer and participants) |
| 09:15 - 09:45 | Brief Introduction to the CE concept |
| 09:45 - 10:05 | CE in the world – legal initiatives |
| 10:05 - 10:45 | CE principles – how to introduce CE |
| 10:45-11:00 | Refreshments |
| **Circular economy in tourism – model and good practices** | |
| 11:00 - 11:30 | Brief introduction - CE and tourism |
| 11:30 - 11:50 | CE in tourism - benefits |
| 11:50 - 13:00 | CE in tourism - case studies |
| 13:00 - 14:00 | Lunch |
| **Tools and instruments supporting implementation of CE** | |
| 14:00 - 14:40 | Circular Economy Tools and instruments developed by e.g. EU |
| 14:40 - 15:10 | Quality standards supporting introduction of CE |
| 15:10 - 15:30 | Summary of the workshop |

- Expectations, hopes, risks, motivation
- Why we are here (agenda, end goals, relation to the participants business activities, etc.)

- Different approaches in economy
- Top-down initiatives and perspectives
- Practical level of CE – how CE works in practice and how this approach develops

- Different sustainable business approaches in tourism
- Benefits for SME and different groups of stakeholders – from CE presence in tourism
- Good practices base on real-life examples

- Different practical solutions supporting CE practically, supporting exchange of knowledge and experience
- Quality and CE – how different quality standards may motivate and support transition to  CE in tourism sector.


# LIST OF SLIDES


| | |
|---|---|
| Slide 1 | Welcome |
| Slide 2 | About the Trainer |
| Slide 3 | Agenda |
| Slide 4 | What is Circular Economy |
| Slide 5 | Why do we need circular economy? |
| Slide 6 | Linear Economy vs. Circular Economy |
| Slide 7-8 | Profits from circular economy |
| Slide 9 | Social, environmental and economic benefits from circular economy |
| Slides 10-11 | Sustainable development and circular economy |
| Slides 12-13 | circular economy – its origin and evolution |
| Slides 14-17 | circular economy - the presence of a system in national systems |
| Slide 18 | Polish way towards a circular economy |
| Slide 19-20 | Main principles related to the circular economy |
| Slides 21-24 | ReSOLVE Model |
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| Slide 26 | Second part of the workshop |
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| Slide 33-37 | circular economy in tourism – case studies – Avocado Vegan Bistro |
| Slides 38-41 | circular economy in tourism – case studies – NOTERA Hotel SPA |
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| Slides 49-52 | circular economy in tourism – case studies - SPA |
| Slide 53 | Third part of the workshop |
| Slide 54 | Circular economy as a system |
| Slide 55 | Tools supporting the change towards circular economy |
| Slide 56 | European Circular Economy Stakeholders Platform |
| Slide 57 | Circular Economy Tools and instruments |
| Slide 58 | Take a green step |
| Slide 59 | Monitoring framework for circular economy |
| Slide 56 | EREK – European Resource Efficiency Knowledge Centre |
| Slides 61-62 | ISO standards |
| Slides 63-65 | The Global Sustainable Enterprise System GSES® |
| Slide 66 | Cradle to Cradle Certified™ Product Standard |
| Slide 67-69 | EMAS |
| Slide 70 | Tourism certification |
| Slide 71 | Global Sustainable Tourism Council |
| Slides 72-73 | CE inspirations in tourism |
| Slides 74-76 | Waste management inspirations |
| Slide 77 | Reducing food waste in the hospitality – HOTREC Guidelines |
| Slide 78 | Thank you and contact data |

# GUIDE OF SLIDES

## Slide 1
## Welcome

Welcome participants, share the goals of the day - familiarize participants with the concept of circular economy, encourage SMEs to implement circular economy in their business activities, inspire with specific examples from the tourism industry and identify tools that companies can support in the process.


## Slide 2
## About the Trainer

After introducing yourself and your professional background, ask also the participants to introduce themselves briefly. It is a good time to ask about their expectations with regard to training.


## Slide 3
## Agenda

Present the expected agenda for the day. Focus only on the range you will be talking about during this meeting. We also encourage you to briefly present/list issues covered by individual training blocks, indicate breaks and their duration, as well as discuss other logistical matters related to the training.


## Slide 4
## What is Circular Economy

Increasing demand and consumption of raw materials causes the search for new solutions in the field of environmental protection. Therefore, the majority of units at the local, regional and national level decide to implement a CE. This idea is holistically related to maximizing the value of the product or service in the closed circuit and increasing the share of recycling at the end of the product life.
Circular economy is an economic concept that interacts with sustainability, and whose objective is that the value of products, materials and resources is maintained in the economy for as long as possible and that to minimize waste generation.


Each year in Europe, an average of 16 tons of materials per person are used and besides, around 6 tonnes per person becomes waste. Moreover, almost half of the waste ends up in landfills.

## Slide 5
## Why do we need circular economy?


## Slide 6
## Linear Economy vs. Circular Economy

One of the main aspect of the CE is transition from linear economy (where materials the EU approach are extracted to manufacture the product, use it and eliminate it) to circular economy (where waste and products, from the end of life of used products, go back into the production cycle as secondary raw materials) with regards to social, economy and environmental aspects. It is implementing a new economy -not lineal- based on the principle of „closing the life cycle" of goods, services, waste, materials, water and energy.
As defined by Ellen MacArthur Foundation (which was launched to accelerate the transition to the circular economy): "A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems".

## Slide 7 – 8
## Profits from circular economy


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The transition towards CE increases investments, value added and jobs and stimulates innovation.

## Slide 9
## Social, environmental and economic benefits from circular economy

The diagram comes from the article "Circular Economy: The Concept and its Limitations" (Korhonen, Jouni & Honkasalo, Antero & Seppälä, Jyri. (2018). Ecological Economics 143:37-46) and illustrates three dimensions of possible "wins" based on circular economy. According to the authors "successful circular economy contributes to all the three dimensions of sustainable development, economic, environmental and social. Circular economy should adapt to the natural ecosystem cycles and utilize these in economic cycles by

## Slides 10 – 11
## Sustainable development and circular economy


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## Slides 12 – 13
## circular economy – its origin and evolution


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In the EU level CE is introduced by three main communiqués:

- Towards a circular economy: A zero waste programme for Europe
- Closing the loop - An EU action plan for the Circular Economy


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- Monitoring framework for the circular economy.

All are described in detail in the training material for SMEs.

For this slide we encourage you to adapt the content and its scope to the level of knowledge of the participants, their interests and expectations regarding the training.

Note: The material was created in the 2018-2019 period and will not be updated after this time. Therefore, we suggest the trainer to update knowledge in this area before each training.

## Slides 14 – 17
## circular economy - the presence of a system in national systems

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CE is a concept currently promoted by the EU, by several national governments including China, Japan, UK, France, Canada, The Netherlands, Sweden and Finland as well as by several businesses around the world.

## Slide 18
## Polish way towards a circular economy


Note: Adjust the content of this slide to the country where the training takes place.

## Slide 19 – 20
## Main principles related to the circular economy

There are few ways to transform linear economy to CE. One of the most important is increasing resource efficiency and decoupling by smarter product use and manufactures, extend lifespan of product and its parts, useful application of materials, waste minimization.

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CE rests in several principles:

- Eco-design: considers and integrates in its conception the environmental impacts throughout the life cycle of a product.
- Industrial and territorial ecology: establishment of an industrial organizational method in a territory characterized by an optimized management of stocks and flows of materials, energy and services.
- "Functionality" economy: favour the use versus possession, the sale of a service versus a good.
- Second use: reintroduce in the economic circuit those products that no longer correspond to the initial consumer's needs.
- Reuse: reuse certain products or parts of those products that still work to elaborate new artefacts.
- Reparation: find damage products a second life.
- Recycle: make use of materials founded in waste.
- Valorisation: harness energy from waste that can't be recycled.

## Slide 21 – 24
## ReSOLVE Model

One of the main business model for CE was developed by Ellen MacArthur Foundation, the framework takes the core principles of circularity and applies them to six actions: Regenerate, Share, Optimise, Loop, Virtualise, Exchange.

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**Regenerate:** a broad set of actions that maintain and enhance the earth's biocapacity. That includes the transition from finite fossil fuels to renewable energy. It includes reclaiming land and restoring or protecting ecosystems. Returning biological resources to nature also falls into this category, through composting for example.

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**Share:** the 'sharing economy' is a concept that overlaps with the circular economy. Sharing gets the full use out of goods and eliminates waste and duplication. The average European car is only driving for 5% of the time, for example, spending the vast majority of the time parked up and out of use. Car-sharing schemes, tool hire, or libraries all help get more value out of products by sharing them. The second-hand market and repair are also filed under 'share', as they similarly reduce the 'loop speed' of goods passing through the economy, ensuring that they're only sent back for recycling or reprocessing when they really need it.

**Optimise:** this is about removing waste energy and materials in the manufacture of goods, and in the use of them as well. It also entails using technology to maximise resource use. For example, fertilizer use is destabilising the nitrogen cycle, but 70% of the fertiliser that is spread on crops is washed away or goes into the soil, and never ends up being used by the plant. Precision farming techniques can deliver exact quantities of fertiliser directly to the roots at just the point that plants look for it, ensuring that as little as possible is wasted.

**Loop:** where organic materials are composted in a circular economy, inorganic (or 'technical') materials are reused. They may be recycled, or even better, goods or parts can be remanufactured. Either way, resources are processed, looped around and put back into the economy, rather than lost to it through landfill.

**Virtualise:** if you have an e-reader or a Netflix subscription, you're taking part in the virtualisation of the economy. Think how many different gadgets have been displaced by the apps on your phone – alarm clocks, maps, a daily newspaper. McKinsey also include driverless cars here and I'm not sure why, as the car itself is hardly dematerialised, even if the driver is.

**Exchange:** the final category describes the processes of swapping in new technologies, upgrading or replacing older ways of doing things. Electric motors will replace internal combustion engines, for example. We may exchange ways of doing things too – perhaps swapping out private motoring, electric or otherwise, in favour of public transport and autonomous car-sharing.

## Slide 25
## Discussion

Ask participant which innovation the circular economy needs the most in their point of view?
After this part of training do they have any first ideas on how their companies can become more circular?


## Slide 26
## Second part of the workshop


## Slides 27-28
## Introduction to circular economy in tourism



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## Slide 29
## Tourism service inputs and outputs

For identification of CE environmental aspects it's important to consider all input factors (energy use, water use, material use, land use and landscaping, guest behaviour) and output factors (air emissions, effluent discharge, waste generation, odour and noise generation, biodiversity implications).


## Slides 30-32
## Profits for tourism industry from implementing CE

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How tourism businesses may benefit from implementing circular economy's principles?

## Slide 33-37
## circular economy in tourism – case studies – Avocado Vegan Bistro

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This example of using circular economy principles in business solutions comes from Avocado Vegan Bistro, located in Gdańsk (Poland).

## Slides 38-41
## circular economy in tourism – case studies – NOTERA Hotel SPA

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Notera Hotel SPA in Bory Tucholskie, Charzykowy (Poland) is the example of how solutions based on circular economy, can be successfully implemented in accommodation and wellness services.
Detailed information can be found on their website:
https://hotelnotera.pl/en/hotel/#eco-friendly-hotel

## Slides 42-48
## Circular economy in tourism – case studies – Green Solution House

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Best practices from the Green Solution House in Rønne (Bornholm, Dnemark). It was intended as a new experimental hotel and was designed and developed inspired by the Cradle to Cradle life cycle concept. Solutions used in the hotel are in accordance with the circulation of nature and the hotel tends to eliminate waste. More: http://www.greensolutionhouse.dk/en (tab: About).

## Slides 49-52
## Circular economy in tourism – case studies - SPA

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## Slide 53
## Third part of the workshop


## Slide 54
## Circular economy as a system


CE is not the new aspect of environmental protection. It is important to take into account the whole system such as: sustainable development, economic growth, eco-innovations, and to analyse it from value chain perspective.

## Slide 55
## Tools supporting the change towards circular economy


## Slide 56
## European Circular Economy Stakeholders Platform


One of the most important tool for collect good practices in EU is The European Circular Economy Stakeholder Platform. The platform is a joint initiative of the European Commission and the European Economic and Social Committee. It creates a "network of networks" going beyond sectorial activities and highlighting cross-sector opportunities and challenges. It is a place for sharing knowledge and expertise, addressing circular economy challenges, collecting existing initiatives at local, regional and national level and facilitating the collaboration of various stakeholders interested in CE issues.
Learn more:
https://circulareconomy.europa.eu/platform/

## Slide 57
## Circular Economy Tools and instruments

To facilitate the transformation into CE European Commission published few indicators for support just transition:

- Building sustainable performance - Level(s) is a voluntary reporting framework to improve the sustainability of buildings. Using existing standards, Level(s) provides an EU-wide approach to assessing environmental performance in the built environment. It encourages life cycle thinking for the whole building by offering a step by step approach to life cycle assessment.
- EU Environmental Technology Verification - ETV is a new tool that helps innovative environmental technologies reach the market. This CE tool provides third--party verification of the performance of technologies, building trust among potential customers whilst reducing technological risk.
- Product Environmental Footprint and Organisation Environmental Footprint - (Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) are comprehensive tools that measure and inform customers about the environmental impact of products and organisations. Their approach of assessing life-cycles reflects the essence of the CE.
- EU Ecolabel - is a voluntary label that helps to identify products and services that have reduced their environmental impact throughout their entire life cycle. It allows consumers to make informed choices and rewards producers who practice making efforts to create sustainable products.
- EMAS Eco-Management and Audit Scheme - EMAS is the official European environmental management instrument that helps organisations improve their environmental performance and demonstrate their efforts to implement „reduce, reuse and recycle" practices.
- Green Public Procurement - GPP is a powerful circular economy instrument that encourages demand for green products and services by promoting green markets and setting strong examples for public bodies to follow.

## Slide 58
## Take a green step

"Take a green step" website is a goldmine of information on how to save resources and attract more clients. Supply chain management. All tourism organisations depend on external suppliers to provide materials and services. The environmental impacts arising from the production and delivery of these materials and services can be substantial compared with environmental impacts directly arising from activities occurring within, or directly managed by, tourism organisations. Please follow on: https://ec.europa.eu/environment/emas/takeagreenstep/index.html

## Slide 59
## Monitoring framework for circular economy

There is no indicator that can be a single measurement for the CE. A number of existing indicators can help to measure performance in several areas that directly or indirectly contribute to the CE development. They can be grouped into 4 presented groups: production and consumption, waste management, secondary raw materials, competitiveness and innovation.

## Slide 60
## EREK – European Resource Efficiency Knowledge Centre


EREK supports European SMEs in creation of real models that savies materials, resources and energy. It provides information, business solutions and support tools for more efficient resource management through a circular business model. EREK also supports national, regional and local initiatives in Europe Europe, supporting SMEs in their way toward CE.
For more and current information visit https://www.resourceefficient.eu/en

## Slides 61-62
## ISO standards

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Based on the ISO 20400:2017, it is really important to consider the CE in whole value chain. There are some ISO standards which regulate the sustainable tourism such as:

- ISO 21401, Tourism and related services – Sustainability management system for accommodation establishments – Requirements
- ISO 20611, Adventure tourism – Good practices for sustainability – Requirements and recommendations
- ISO 21416, Recreational diving services – Requirements and guidance on sustainable practices in recreational diving
- ISO/TC 228, Tourism and related services. One example is technical specification
- ISO/TS 13811, Tourism and related services – Guidelines on developing environmental specifications for accommodation establishments

## Slides 63-65
## The Global Sustainable Enterprise System GSES®

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The Global Sustainable Enterprise System GSES® is an international standard for sustainable enterprises. Circular, sustainable and socially responsible entrepreneurship measured according to international standards such as ISO 20400, ISO 26000, ISO 14064 and BS 8001 – transparent supply chain in all areas of sustainable business

https://certifications.controlunion.com/en/certification-programs/certification-programs/gses-circular-economy

https://gses-system.com/

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Voluntary process guidelines that recommend transparency and disclosure and promote integrity in the debt and equity market for the circular economy. This document is a common work of ABN Amro, Banco Intesa San Paolo, BNP Paribas, CDC, Circle Economy, Circularity Capital, Danish Business Authority, EBRD, EIB, Ellen Macarthur Foundation, ING, KPMG, PGGM, Rabobank, Sitra, Suez.
It was developed with the ambition to create a joint framework for financing the circular economy. According to the ABN Amro website "the new guidelines should help financial services companies establish whether or not initiatives are truly circular, for instance by monitoring recycling of products and materials and so ensuring that these retain the best possible value".

https://www.abnamro.com/en/newsroom/press-releases/2018/abn-amro-ing-and-rabobank-launch-finance-guidelines-for-circular-economy.html

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https://www.abnamro.com/nl/images/Documents/040_Duurzaamheid/Publications/ABN_AMRO_Circular_Economy_Finance_Guidelines_2018.pdf
Circular Economy Finance Guidelines propose
According the Guidelines, in the circular assessment of the company two aspects should be considered: business model and the socio-economic impacts (that includes environmental impact)

The guidelines propose to consider the following one typical business models of the CE:

- Circular Inputs: substitute virgin raw materials with secondary (recycled)
- Circular design: eliminate/reduce input of hazardous/toxic materials, easy disassembly and repair to facilitate recycling, reuse, life time extension.
- Sharing business models: increase the capacity utilisation of a product or asset during its useful life,
- Product-as-a-service
- Life Time Extension
- Material/resources recovery
- Circular facilitators and enablers – establish networks and collaborate with facilitators in CE, i.e. reverse logistic.

## Slide 66
## Cradle to Cradle Certified™ Product Standard

The Cradle to Cradle Certified™ Product Standard guides designers and manufacturers through a continual improvement process that looks at a product through five quality categories — material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness. A product receives an achievement level in each category — Basic, Bronze, Silver, Gold, or Platinum (https://www.c2ccertified.org/get-certified/product-certification).

## Slide 67-69
## EMAS

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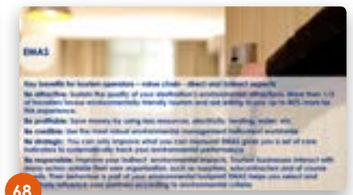

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Key benefits for tourism operators - a value chain - direct and indirect aspects. It identifies 5 benefits for tourism operators:

- Be attractive: Sustain the quality of your destination's environmental attractions. More than 1/3 of traveller 's favour environmentally-friendly tourism and are willing to pay up to 40% more for this experience.
- Be profitable: Save money by using less resources, electricity, heating, water, etc.
- Be credible: Use the most robust environmental management instrument worldwide.
- Be strategic: You can only improve what you can measure! EMAS gives you a set of core indicators to systematically track your environmental performance.
- Be responsible: Improve your indirect environmental impacts. Tourism businesses interact with many actors outside their own organisation, such as suppliers, subcontractors and of course guests. Their behaviour is part of your environmental footprint! EMAS helps you select and positively influence your partners according to environmental criteria

EMAS Awards 2017 theme - "contributing to the make the European economy more circular" – winner the Belgian Hotel Chain Martin's Hotels demonstrates CE on a larger scale. Martin's Hotels, with 350 employees, has achieved significant cost and material savings through its purchasing policy (sourcing local and eco-labelled products, leasing equipment) and waste management (preference for rechargeable products, bulk purchases and donation or reuse of furniture).

## Slide 70
## Tourism certification

As there are many different standards and certificates related to ecology and sustainable tourism, we advise the trainer to adapt the scope of information related to this slaid to the needs of participants and the country in which the training is conducted. Specific certificates used in particular countries should be discussed in details.

## Slide 71
## Global Sustainable Tourism Council

The Global Sustainable Tourism Council is a UN-endorsed independent organization playing a critical role as the leading global authority in providing guidance for the development and management of sustainability practices in travel and tourism.

## Slides 72 – 73
## CE inspirations in tourism

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Sustainable cruise –LIFE - Led by one of the largest cruise companies (Costa Crociere), the project aimed to demonstrate the potential for waste prevention, recovery and recycling on a cruise ship. It has assessed the environmental impacts of three waste streams (packaging, biodegradable waste and paper) and the technical/economic viability of the large scale waste management solutions. It has also suggested a standardised approach to waste management on - board. Last but not least, it provided guidelines for an advanced certification scheme and assessed the possibility of converting CO2 emissions reductions into tradable carbon credits. EU contribution: € 1.314.623 (2011-2014) - Level of EU funding: 50%

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Cluster GOazen („let's go" in Basque) – 2008 is a collaborative space between tourism companies in the Basque Country, - a network of more than 580 companies in the sectors of accommodation, catering, recreation, entertainment provider, museums, receptive and transport. Together they share a collective vision and engage in the fields of marketing, human resources, innovation, quality, cross-border tourism and the synergy of public / private actions.

## Slides 74-76
## Waste management inspirations

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## Slide 77
## Reducing food waste in the hospitality – HOTREC Guidelines

HOTREC Guidelines is worth of mentioning when it is a great example how association supports its members and simultaneously introduces top-down some standards to the (tourism) sector. This kind of (international) cooperation as well participation in transnational organization helps to flow a knowledge and innovations. Source: https://u.profitroom.com/2017.ighp.pl/uploads/pdf_aktualnosci/hotrec_brochure_-_reduce_food_waste.pdf

## Slide 78
## Thank you and contact data

Guide for Trainers

# Energy

MODULE WORKSHOP

LEAD PARTNER

PARTNERS

CIRTOINNO

Interreg South Baltic

European Regional Development Fund

# INTRODUCTION

The role of energy in circular economy might not be that obvious. It can be easily stated that ideas that stand behind the role of energy in circular economy are among others: high efficient energy systems, sustainable energy management and implementing technologies based on renewable sources as well as sustainable use of available resources. The goal of this part of workshop is to present ideas and solutions regarding energy within the circular economy. Energy is just another resource in a company and should be carefully managed, not wasted, saved and recovered.

When the topic of energy efficiency usually concerns the whole - for example - of a building, we should remember also to develop positive habits of users and customers who press the button.

# OBJECTIVE

The purpose with the training in the energy module is that we should:

- Provide a perspective of the meaning of energy use in relation to CE
- Introduce modern energy concepts, such as, Renewable energy, Energy efficiency, Prosumer, Energy cluster, Energy Management System etc.
- Equip the business owner/staff with capacity to:
  - Evaluate the options for sourcing clean energy
  - Identify possibilities to produce their own renewable energy
  - Identify relevant business areas that have a high use of energy
  - Identify actions that will decrease their energy consumption
  - Identify actions that will lead to more sustainable travel and transports
  - Monitor the results of different measures
- Introduce the SME´s to an action plan for energy and transports and help them getting started with their work to develop an action plan for their own business.
- Inspire participants with different examples of possibilities in turning toward renewable sources
- Give the participants an opportunity to have an experience exchange with other participants, either through regional or cross boarder exchange.
- Support the SMEs to develop new CE inspired services/products

# SUGGESTED AGENDA (1DAY WORKSHOP)


The training is supposed to take one day but could also be made shorter.
Here we suggest an agenda for a training between 08:30 and 15:30.

**Introduction – 40 minutes**
- Presentation of speakers and the agenda
- Presentation of the SME participants and their expectations about the day
- Short introduction to circular energy
- Circular economy and energy
- The importance of a circular star
- Energy use in the tourism sector

**Energy and resource efficiency – total 1 hour**
- Building envelope
- Ventilation
- Circulation pumps

**Coffee break - 30 minutes around 09.45**

**Energy and resource efficiency** - continues
- Heating and cooling
- Lightning
- Energy management systems
- Water economy
- Reducing waste

**Measuring is to know – how to identify actions 15 minutes**
- Introduction about observing
- Short discussion with your neighbour about what data you have access to or are missing

**Energy tour at the hotel / restaurant where the education is conducted - 30 min**
- An energy advisor leads the tour together with the CEO or energy coordinator. Comments on good solutions and ways to improve the energy efficiency
- If it is a big group, you can take half the group for the tour while the other half is having the discussion. Then you change the groups.
- If it´s a restaurant it´s a good idea to make the tour after lunch, for example at 14.00.

**Discussion in smaller groups, energy efficiency - 30 minutes**
- What is the current situation in your business? What would you like to improve? Start developing an action plan. Ask the groups to give examples of what they discussed before going to lunch

**Lunch break – 60 minutes**

**Energy supply and production - 30 minutes**
- Electricity
- Heating and cooling

**Solar panels, electric cars and charging posts**
- Solar panels
- Financing

**Discussion in smaller groups, supply and production, solar panels, electric cars and charging posts 30 minutes**
- What is the current situation in your business? What would you like to improve? Start developing an action plan. Ask the groups to give examples of what they discussed.

**Sustainable travel and transports – 30 minutes**
- Your own transports
- Your supplier's transports
- Your guests transport

**Coffee and discussion sustainable travel and transports, smaller groups - 30 minutes**
- What is the current situation in your business, what would you like to improve, start developing an action plan

**Financing – 10 minutes**
This part must be adapted to the country where training is being held, since there are different grant, support and tax systems in the countries.

**Promoting of subsequent workshops and advisory services - 5 minutes**

**Evaluation of the day, closing – 10 minutes**

# LIST OF SLIDES


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Slide 2 Agenda

**3-7 Circular economy**
Slide 3 The difference between linear and circular economy
Slide 4 A quick background to raise again the relevance of CE
Slide 5 The CE principles. Principles as formulated by Ellen McArthur
Slide 6 Short version of the principles
Slide 7 Technical and biological cycles

**Slide 8-9 Circular Economy examples**
Slide 8 Restaurant Silo
Slide 9 Hotel Green Solution House Bornholm

**Slide 10-12 Energy Consumption in Tourism sector**
Slide 10 Energy Consumption in tourism sector
Slide 11 Energy Consumption in hotel
Slide 12 Energy Consumption in restaurants
Slide 13 Energy smart adaptation in three steps
Slide 14 Main areas of improvement
Slide 15 Energy Efficiency = Making more with less
Slide 16 Building shell
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Slide 18 Doors and windows
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Slide 21 Ventilation measurements, examples
Slide 22 Energy efficiency in kitchens

**Slides 23-28 Lighting**
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Slide 24 Understand the 7 basic concepts of light
Slide 25 Figure
Slide 26 Visually impaired
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**Slide 33-37 Energy Audit**
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Slide 35 Energy-map of Press Kogyo
Slide 36 Night walk – What should we keep track of?
Slide 37 Analysis of energy use – daily-/hours values
Slide 38 Energy management systems

**Slide 39-42 How to identify actions?**
Slide 39 How to identify actions?
Slide 40 Energy analysis


Slide 41 LCC - Life Cycle Cost
Slide 42 To measure is to know
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Slide 48 Electricity price – Sweden 1996-2017
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Slide 70 Own transports and supplier transports
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Slide 74 Drive/rent fossil free vehicles
Slide 75 Types of renewable fuels
Slide 76 Wellbeing and energy efficiency
Slide 77 Recreational use
Slide 78 How to identify actions
Slide 79 Workshop Part 3
Slide 80 Financing in Sweden
Slide 81 Closing

# GUIDE OF SLIDES

## Slide 1-2

**Welcome**
Welcome participants and bring up any logistical matter. Share the aim of the day to inspire SMEs and helping them to find possible solutions.

(Slide 2) Present the agenda -show only the topics you will talk about. It is often effective to show planed breaks and lunch at the agenda

We suggest holding a small introduction round among the participants and their expectations about the day, (better for small and medium sized groups, but also possible in big groups if one keeps the introductions very short)

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## Slide 3 to Slide 7

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**Circular economy quick review of CE**
If your group need a deeper introduction check the first module of the project for the related material.

Provide a quick background to raise again the relevance of CE.

Speak about the difference between linear and circular economy.
This is an opportunity to show how CE includes many concepts, and the work done so far just add to the transition towards CE. It includes many of the concepts in green and sustainable work.

This is also a place to highlight that one of the strengths of CE is that it prompt business not only to address such issues but to design their core business and supply chain in a way that include those aspect as a business solution not as a problem mitigation, but as opportunity.

In that sense CE moves from the feeling and sense of moral obligation to the one of opportunity. The opportunity is to re-shape "what do we use" – "how do we use it and offer it" and "what to do with the bi-product and waste."

Introduce the principles. You may read or just refer to them. Acknowledge they are written in very academic form but there is a way to easily understand them (here you might want to bring the "resolve" or other frameworks.

You may highlight that the idea is to
- Minimize the intake of resources
- To regenerate and keep natural resources in balance
- By redesigning the business offer
- In such way that also exclude pollution and waste

Explain that the idea is to keep the things we produce in circulation if possible, to preserve their value.

It is a short version of the principles. You may use this slide directly or move from the fully explicit principles to the short version. We have used the long ones to say that those are the more scientific version, and can they be explained in simple terms. It is a way to show that CE can be simple to understand.

Explain that there are technical and biological cycles to be considered and you may give a technical example such as reusing the memory chip on a computer before recycling. Or a biological cycle example, before composting an intermediary step for retrieving the gas can help to make the most of such resource.
Here you can make the bridge to CE and Energy saying that Renewables and Energy efficiency are key elements to be keep coherent to the CE concept and principles.

## Slide 8 - 9

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**Example Circular Economy**
We used to look for the stars as guidance. In circular economy having guiding stars means selecting some guidelines or directives that can help business to look at their activities with new eyes.
Some examples of guiding stars are: "Our company is carbon neutral", "We are zero waste", or "We use sustainable products". It is much easier for companies to find or develop new solution if they have directions to where they should be moving. There is many action´s one can take to be sustainable and develop a more circular approach. Moreover, having a guiding start helps to bring together different initiatives that are effective however that would be lost or meaningless without the reference provided by the guiding star. For example, insulating a roof is an action business can take in order to improve energy efficiency. It has a great benefit saving energy resources and money. However, such action is not something to be marketed without a context, it simply hard to make sense or a point out of it. However, if the business has a guiding start like "Using resources as best as possible" or "reducing waste", then such action can be place in a context. A business can advertise how insulating the roof saves resources thus reducing waste of energy, reduces their CO2 emissions or both!

**Slide 8 Example about a circular guiding star – The Silo and Zero Waste**
The restaurant Silo in Brighton have a Zero Waste as a business model. They have shown that it is possible to run a restaurant based on sustainable solutions. It is possible both economical and ethic. They try to buy and produce this as local as possible. They get bulk deliveries. The food waste is used to produce energy and soil improvement.
If a company chooses a "Zero waste" as a guiding star, then looking at supply and production efficiency, as well as looking at consumer left overs gains a whole new perspective. Waste is not just an externality to be managed, but it becomes something to be designed out of the equation or considered into the equation. Ultimately, such change of perspective allows the development of new business partnerships and revenue streams.

**Slide 9 Example about a circular guiding star – Green Solution house**
Green Solution House is a hotel and conference centre in Bornholm. Their business model is to be circular and work with the Cradle to cradle principle. Explain cradle to cradle if the participants are not familiar with the concept.
Their circular thinking permeates the entire business and part of the profit is reinvested into sustainable solutions / new technology. They are using natural or recycled materials, the produce their energy from solar energy, food waste etc., they have their own water treatment, green walls for better indoor environment, etc.

Reinforce with a definition that the work is about:
- Use of renewable energy sources
- Continuous effort towards energy efficiency

The last part of the definition reinforces that this can be done in different parts of the business:
- Production (including supply chain)
- Distribution, as well as
- User Behaviour

## Slide 10 -12


**Energy Consumption in Tourism sector**
Provide an overview of figures and main energy consumption. Please adapt this to your audience and location.

## Slide 13

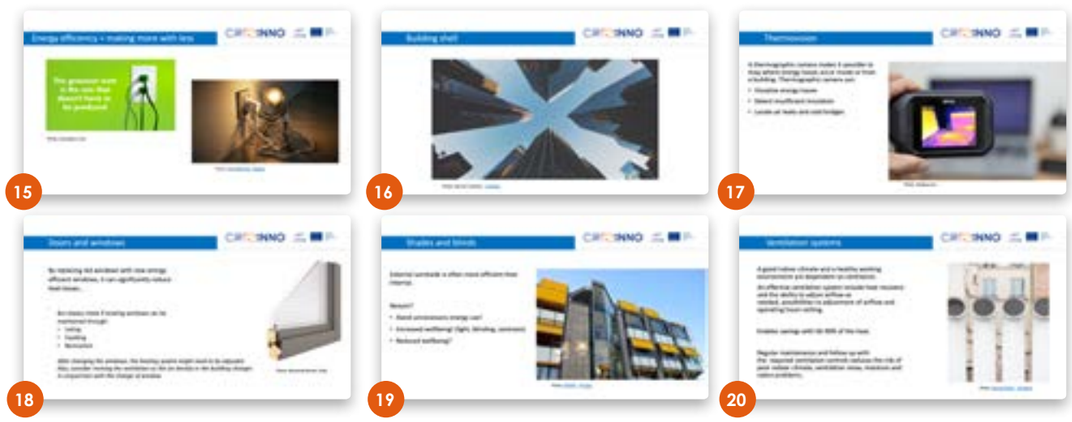
**Energi Smart adaption in three Steps**

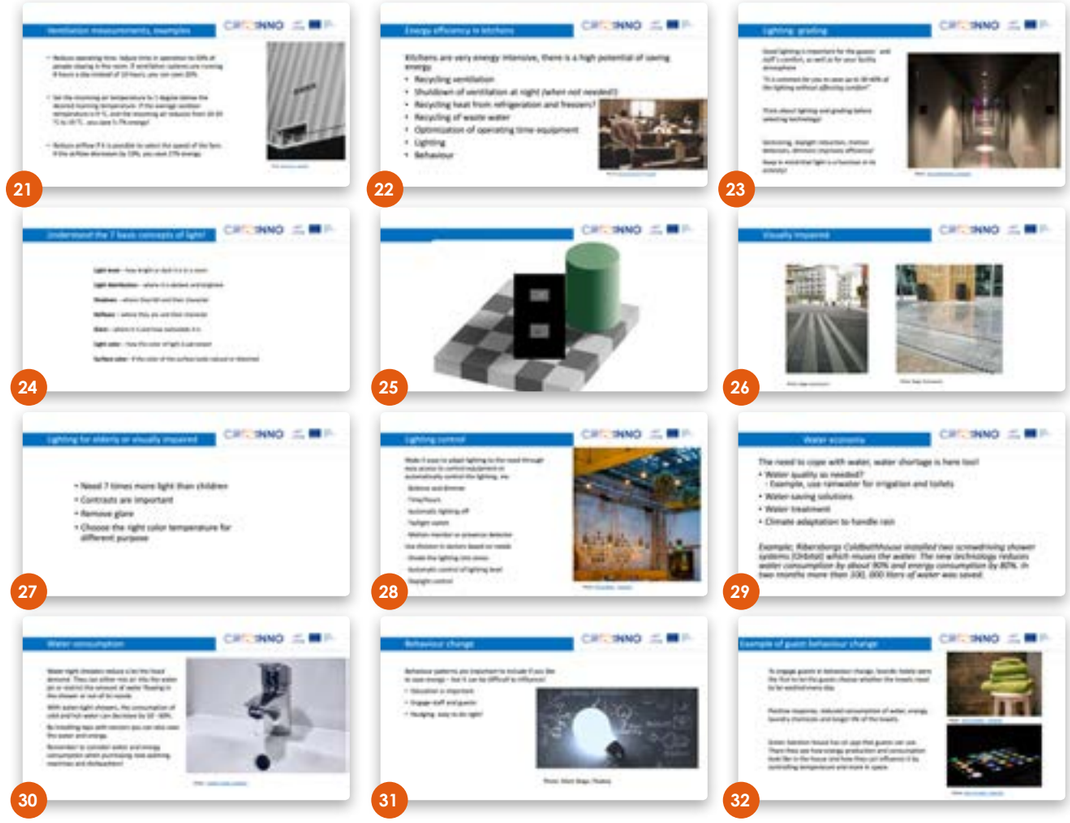
1. Reduce end-use of energy – no or low cost (behavior and optimizing)
2. Make more efficient use of energy – need investments
3. Increase the share of renewable energy – no or low cost

## Slide 14

**Main Areas of improvement**
These slides provide a small overview of the main areas of improvement. It works as a reminder of the agenda and what is about to come. This Slide could also be used to speak about Energy topics is a very short version.

## Slides 15-32




**Energy and Resource Efficiency**
These slides bring up first a definition of energy efficiency.
It follows many possible areas of improvements that are described in the content training, please check the material in case more detailed information is needed.

The topics are:

- Building Envelope
- Thermovision
- Doors and windows
- Shades and blinds
- Ventilation systems
- Ventilation measurements (examples)
- Energy Efficiency in Kitchens
- Lighting - grading
- Understand the 7 principles of light
- Lighting for visually impaired
- Lighting for the elderly or visually impaired
- Lighting control
- Control of lighting
- Water economy
- Water consumption
- Behaviour Change
- Example of guest behaviour change (and engagement) initiative

## Slide 33- 37

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**Energy Audit**
Opportunity to explain how one keep track and makes changes in the above-mentioned areas (Slide 33) energy efficiency run through
(Slide 34) Audit in 4 steps
(slide 35) example of an energy audit map
(slide 36) Night walk – showing possible areas to keep track and check for
This could be also an opportunity for a practical example: An invited regional or local energy advisor (or similar organization) will lead a climate walk through the building together with a representative from the hotel or restaurant to which the education is located. The energy adviser comments on the building, installations, lighting and more. The advisor talks about what is good and gives advice on what can be improved. The aim is for participants to see concrete examples of what we have discussed during the theoretical review.
(slide 37) Analysis of electricity use – daily-/hours values

## Slide 38

**Energy Management Systems**

**Intro and benefits of EMS and BMS**
Energy Managements System support you in collecting data in relation to energy use. The correct system analysis, metering and recording the consumption of energy and hot water use is essential to create a base line as well as, to start identifying and implementing energy saving measures. Moreover, such monitoring supports assessing the progress of implemented measures.
Another common feature of energy management systems is that it can help you to establishing the system parameters for an efficient energy use.

Examples
Provides two examples, Ray-based that has much more sensors and control possibilities, and Watty, that works with one general sensor and is more for overview and smaller places.
As a third example you can use this video: https://youtu.be/LFkLUVjWK08 Although it is a big Hilton case, that might not be applicable or scary to SMEs (use at your own risk ;)). It can be helpful to show what an EMS /BMS is and could even be used earlier.


## Slide 39-42

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**How to identify actions.**
Before starting with workshop, it is good to provide an idea of how business can identify action more in depth.

Energy Analysis

LCC
For this step I would be ideal that you can either have companies to bring some of their data to the workshop. An alternative is that the workshop is divided in two parts that ran in different days. So, companies can do a homework focused on their area of interest and continue with focused exploration.

Slide explanation:
By considering the entire cost, both the purchase and operating costs you get an overall picture of what an equipment cost.

To only look at the purchase price can give a misleading picture of the actual cost.

LCC calculations are a tool for identifying the saving potential often found in low operating and maintenance costs.

Use LCC when purchasing products or services that use a lot of energy, fuel or water in the user phase.

It is also advisable to use LCC calculations when purchasing products that affect the use of energy, such as air filter.

To measure is to know - intro to the topic

## Slide 43


**WORKSHOP 1 Discussion**

Ask the participants to talk to their neighbour and discuss their access to data and what they are missing. After 5 minutes ask if anyone has a good example or if a few participants briefly can share their situation.

OR

Do a 30 minutes workshop in groups with 4-5 persons in each.

Identify actions and measures – observing and planning – for:
- Energy Efficiency
- Energy Management Systems

Trigger questions is to ask:
- What would be interest for their company? – to ground the knowledge.
- What is their current situation?
- What would they like to improve?

Use the template for the action plan and write down ideas for about 5-10 minutes. Discuss ideas and potential solutions with the other members in the small group. The trainer and energy advisor will walk from group to group and listen/answer eventual questions. 15 min.
Round up the workshop by asking every group to tell the others about one problem/ solution that the group have discussed.

## Slide 44-49

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**Introduction to energy supply**
44. makes a point why to consider the energy supplier.

45. Why renewable energy - Explain why renewable energy is advantageous

46. gives some general figures about energy production according to different sources

47. Energy Production of RES – listing of different sources

48. Electricity price in Sweden – It may also be interesting to have some up to date data for your region. Please adapt or add a slide relating to your context

49. heating sources such as district heating - talks about district heating – today this is a harder system to influence. Many states are taking initiatives to provide a cleaner heat production for comfort and warm water. It is possible to complement this by production your own heat and hot water through the solution discussed in the next session.

## Slide 50

**Buy renewable energy**
Could speak about the possibility of buying energy from renewable sourcing from a supplier, i.e. as opposed to producing yourself. Every region is different please create a slide adapted to your circumstances


## Slide 51

**Buy Shares**
This slide is a good transition between trying to source renewable energy from suppliers to the possibility of producing your own electricity.
It is possible to buy shares in cooperatives that can provide a business with energy (electricity often) directly via cable transmission or indirectly by trading energy shares. This is a good alternative in places that there are no renewable energy providers, or in cases that the business cannot


## Slide 52-62

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**Produce your own Energy**

There are different ways in which one can produce their own energy. Due to the development technologies such possibility is more and more viable. This is clear in relation to solar cells, for example, but it also applies to others energy systems. The next slides describe different ways in which one choose such systems. Here might be a good time to talk about the current trend to have decentralized energy production and explain micro-producers.

The energy systems for micro--renewable productions are:
- Solar photovoltaics
- Solar collectors
  - Exercise solar map (explanation below)
- Wind Energy
- Hydropower – Dams have lots of challenges, in region with rivers, this could be an alternative https://youtu.be/eXljm_axyu0
- Decentralized heating systems (quick intro)
- Geothermal heating
- Cooling systems
- Energy from food waste

Exercise solar map:
When talking about energy it is possible to do an exercise using the solar map (solkartan) to estimate how much savings and potential there is – business can be asked to look at their own roof. In international cases, the map also allows to show the potential of different placements according to the direction of the roof.
https://www.svensksolenergi.se/att-installera-solenergi/solkartor
(Video) https://www.youtube.com/watch?v=8x9i5kC-1G_U&feature=youtu.be
This site has also some instructions about how to use to solar map that is placed under the banner Solkarta Blekinge https://www.lansstyrelsen.se/blekinge/lantbruk-och-landsbygd/miljo/energi-och-klimat/stod-till--solcellsanlaggning.html


Here you can provide examples such as Green House Solution http://www.greensolutionhouse.dk/green-solutions/ also mentioned above or the and Quality Hotel Friends in Solna described in the slide

## Slide 63

**Workshop 2. Energy supply and production**
Do a 30 minutes workshop in groups with 4-5 persons in each. Identify actions and measures – observing and planning – for:

- Renewable energy supply and production

Trigger questions is to ask:

- What would be interest for their company? – to ground the knowledge.
- What is their current situation?
- What would they like to improve?

Use the template for the action plan and write down ideas for about 5-10 minutes. Discuss ideas and potential solutions with the other members in the small group. The trainer and energy advisor will walk from group to group and listen/answer eventual questions. 15 min.

Round up the workshop by asking every group to tell the others about one problem/ solution that the group have discussed.

## Slide 64-65

**Food and resources**

Foodstuff are using a lot of resources through their production process, processing and distribution. This is at the core of the biological materials cycle. For the hotel restaurant sector, this encompasses production of raw materials, the deselection of plant and animal parts deemed unfit for human consumption and their cascading into other sectors, for example into biological energy and the animal foodstuffs sectors.

- Material flows involved in food and meal packaging, including glass, paper, plastic and card box. It is not only the amount and type of wrapping that is relevant to consider, but equally so the 'after-life' or possible re-use or recycling of these materials.
- Energy use in relation to transport of biological materials as well as processed and prepared goods. Here not only distance matters, but also the efficiency of the involved transportation technology including the consumption side.
- Water use involved in food preparation, cooling and cleaning. Here it is necessary to distinguish between direct and indirect water use, i.e. use in the hotel kitchen and indirect water use accumulated through the production and processing of food items.
- Energy use in food preparation, cleaning and storage. Like with water, it is possible to distinguish between the direct use in the hotel kitchen and the indirect energy content accumulated through the production and processing of food items. The accumulated energy-content is sometimes expressed as equivalent of tons of CO2-emissions to relate it to climate change. The indirect energy content from food material transportation may be included in this calculation.
- Technological kitchen appliances. The in-house impact of the chosen technology such as refrigerators and freezers, ovens, pressure steamers, dishwashers etc., will directly influence the energy-consumption and water use of the hotel kitchen.
- Cutlery, plates, glasses, etc.: Hospitality restaurants use many plates, cups, glasses, cutlery and interior decorations. In a circular economic thinking, the energy and material content used in the production of these, as well as the after-use life of these are relevant to consider.

Minimize food waste

To reduce food waste, it is most important to:

- Fix targets for avoidable food waste reduction
- Routines for right portions
- Menu planning Internal education / training on costs
- General awareness campaigns on avoidable food waste prevention
- Planning production

Of medium importance is

- Purchasing routines
- Reporting on costs
- Training on environment and sorting waste

Less important is

- Freezing and storage routines
- Routines for following recipes
- Introduce incentives for reducing food waste
- Follow up buffet routines
- Access and measure food waste

In the slide there is an example from the Scandic Hotel I Karlskrona. Scandic Hotel in Karlskrona sells leftovers through the Karma app. It's a new service they have developed to reduce their food waste. It´s very popular among their customers. It´s possible due to their ability to have a quick cooling, then the food can be sold to new customers.

## Slide 66

**Waste minimization**
Reducing waste amounts also means more efficient use of resources. Waste minimization is a key stone in the concept of circular economy.

Keep in mind that:

- Which materials you choose, please use natural materials
- Choose non-toxic products
- Products should be designed to be disassembled and recycled
- Is it possible to repair products or replace broken parts? (Give an example about floor mats, which are made up of various interchangeable modules. In that way you can replace worn parts instead of the entire carpet.)
- Recycle and recycle materials
- Organic food waste can be raw product for energy production

## Slides 67 – 77

67

68

69

70

71

72

73

74

75

**Transport in tourism**
(Slides 67) Sustainable travel and transport in tourism

Provides an overview of the use and (slide 68) impacts of transport in tourism sector

(slides 69) Sustainable Transports
The other slides allow the exploration of the following topics:

- Own Transportation and Suppliers
- Own Transportation of Staff
- Public transport
- Shuttle services
- Drive and rent an eco-fuel-led vehicle
- Types of fuel
- Wellbeing and energy efficiency
- Recreational use

76

77

## Slide 78

**How to identify action within transport**

For discussion points for observing planning and beyond, the trainer can focus on the following topics:

- Transport within the company
- Suppliers transport solutions (distance, requirements etc)
- Guest transportation
- New Offer around transport and mobility.


## Slide 79


**Workshop 3 - discussion sustainable travel and transports**

For this step I would be ideal that you can either have companies to bring some of their data to the workshop, on that the workshop is divided in two parts, so companies can do a homework focused on their area of interest and continue with focused exploration.

**Workshop 3. Energy and resource efficiency**
Do a 30 minutes workshop in groups with 4-5 persons in each. Identify actions and measures – observing and planning – for:

- The companies own transports
- The suppliers transport
- The guests travel and transports

**Trigger questions is to ask:**

- What would be interest for their company? – to ground the knowledge.
- What is their current situation?
- What would they like to improve?

Use the template for the action plan and write down ideas for about 5-10 minutes. Discuss ideas and potential solutions with the other members in the small group. The trainer and energy advisor will walk from group to group and listen/answer eventual questions. 15 min.

Round up the workshop by asking every group to tell the others about one problem/ solution that the group have discussed.

## Slide 80


**Financing (in Sweden)**
First and foremost, adapt this information to your land and to the current point I time. for the types of support changes.

After discussion it is possible to focus on the financing possibilities that are relevant or direct them to appropriate consultants and advisory services

The slide about financing must be developed separately in each region. The reason is that there are different national grants in different countries. You get an idea about the different grants that you can talk about in the training material. Make sure that the information I still is actual since grant systems tends to change over time.

## Slide 81


**Closing the day**
Here you can promote offers about how participants can move forward and get feedback on workshop.

Often it is better to ask the participants to fill in an evaluation form before they leave.

# APPENDIXES

# APPENDIX 1
# SUGGESTED AGENDA (2H WORKSHOP)

The training is supposed to take one day, but could also be made shorter. Here we suggest an agenda for a training of 2h.

- Introduction – 20minutes
- Energy and resource efficiency – total 15 min
- What and how to keep track off energy efficiency? 15 minutes
- Energy Management system  5 min

Coffee-Break

- Energy supply and production - 15 minutes
- Waste minimization 10
- Sustainable travel and transports – 15 minutes
- Financing – 10 minutes
- Close

# APPENDIX 2
# LIST OF SLIDES FOR SHORT VERSION OF WORKSHOP

The number on the left correspond to the slide number in the short (PPT) presentation.

The slide description, i.e., Slide 1..., Slide 2..., correspond to the slide number according to the guide for trainers, in case one needs more info about a given slide.

| | |
|---|---|
| Slide 1 | Welcome |
| Slide 2 | Agenda |
| Slide 3 | The difference between linear and circular economy |
| Slide 4 | A quick background to raise again the relevance of CE |
| Slide 6 | Short version of the principles |
| Slide 7 | Technical and biological cycles |
| Slide 8-9 | Circular Economy examples - Hotel Green Solution House Bornholm |
| Slide 10 | Energy Consumption in tourism sector |
| Slide 11 | Energy Consumption in hotel |
| Slide 12 | Energy Consumption in restaurants |
| Slide 14 | Main areas of improvement |
| Slide 15 | Energy Efficiency = Making more with less |
| Slide 33 | Energi Efficiency = Run Through |
| Slide 36 | Night walk – What should we keep track of? |
| Slide 34 | Energy audit in 4 steps |
| Slide 41 | LCC - Life Cycle Cost |
| Slide 39 | how to identify actions? |
| Slide 38 | Energy management systems |
| Slide 44 | Energy supply |
| Slide 47 | Energy production from RES |
| Slide 50 | Buy renewable energy |
| Slide 51 | Buy shares |
| Slide 52 | Produce your own energy |
| Slide 61 | Energy from food waste |
| Slide 62 | Examples energy production in hotels |
| Slide 66 | Waste minimization |
| Slide 65 | Minimize food waste |
| Slide 67 | Sustainable travel and transport in tourism + |
| Slide 68 | Environmental impact |
| Slide 69 | Sustainable transports |
| Slide 78 | How to identify actions? |
| Slide 80 | Financing (in Sweden) |
| Slide 81 | Closing |

# APPENDIX 3
# LIST OF SLIDES FOR SHORT VERSION OF WORKSHOP

**Workshop description**
This document is an excerpt and it is based on the descriptions of workshops that are included in the PPT slides and the guide for trainers description of the energy module of the CIRTOINNO project.

Such workshops are meant to support organizations:

- Reflect on the information they just heard
- Try to apply this knowledge to their own sourcing and use of energy.

The workshops follow the build-up of the energy module training developed on the CIRTOINNO project. The content and design of the workshop is inspired by the guiding methodology selected under the training development: Observe, Plan, Act and Measure.

It is meant to be use in conjunction with the Manual for Users so participants can register their data

# WORKSHOP 1 DISCUSSION

Ask the participants to talk to their neighbour and discuss their access to data and what they are missing. After 5 minutes ask if anyone has a good example or if a few participants briefly can share their situation.

OR

Do a 30 minutes workshop in groups with 4-5 persons in each.

Identify actions and measures – observing and planning – for:

- Energy Efficiency
- Energy Management Systems

**Trigger questions is to ask:**

- What would be interest for their company? – to ground the knowledge.
- What is their current situation?
- What would they like to improve?

Use the template for the action plan and write down ideas for about 5-10 minutes. Discuss ideas and potential solutions with the other members in the small group. The trainer and energy advisor will walk from group to group and listen/answer eventual questions. 15 min. Ask people how can they follow up their choices (check).

Round up the workshop by asking every group to tell the others about one problem/solution that the group have discussed.

# WORKSHOP 2 ENERGY SUPPLY AND PRODUCTION

Do a 30 minutes workshop in groups with 4-5 persons in each.

Identify actions and measures – observing and planning – for:

- Renewable energy supply and production

**Trigger questions is to ask:**

- What would be interest for their company? – to ground the knowledge.
- What is their current situation?
- What would they like to improve?

Use the template for the action plan and write down ideas for about 5-10 minutes. Discuss ideas and potential solutions with the other members in the small group. The trainer and energy advisor will walk from group to group and listen/answer eventual questions. 15 min. Ask people how can they follow up their choices (check). 15 min.

Round up the workshop by asking every group to tell the others about one problem/solution that the group have discussed.

# WORKSHOP 3
# ENERGY AND RESOURCE EFFICIENCY

Do a 30 minutes workshop in groups with 4-5 persons in each.

Identify actions and measures – observing and planning – for:

- The companies own transports
- The suppliers transport
- The guests travel and transports

**Trigger questions is to ask:**

- What would be interest for their company? – to ground the knowledge.
- What is their current situation?
- What would they like to improve?

Use the template for the action plan and write down ideas for about 5-10 minutes. Discuss ideas and potential solutions with the other members in the small group.

The trainer and energy advisor will walk from group to group and listen/answer eventual questions. 15 min. Ask people how can they follow up their choices (check). 15 min.

Round up the workshop by asking every group to tell the others about one problem/solution that the group have discussed.

# WORKSHOP 4

In shorter workshops might be worth to get a template and work through it to get a more wholistic view of the company resource use and business models.

In such cases, it can be useful to use templates such as the one developed by Cirtoinno, namely Template for assesment of current activities, or the "Circulab template"

Guide for trainers

# Business Model Innovation

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# INTRODUCTION

Switching from the current linear model of the economy to a circular one has recently attracted the attention of major global tourism companies, for instance, Hilton Worldwide Holdings. The reasons for this are immense financial, social, and environmental benefits. The rise of interest of SMEs in participating in this growing trend is also noticeable. Unlike large corporate conglomerates SME's, are, however, often lacking expertise in the field. Thus, comprehensive knowledge of designing circular business models is needed to stimulate and foster the implementation of the circular economy.

# OBJECTIVES

The overall objective of the workshop is to introduce, circular approach by design, followed by a demonstration of good practices, recommendations, and practical exercises regarding closed-circuit, business models implementation.

# EXPECTED RESULTS

The expected result is to improve innovation capacity among South Baltic SMEs operating in the tourism sector, as well as to teach them how to develop and implement circular solutions into their daily business operations.

# WORKSHOP SCHEDULE

**Below is a recommended schedule for the workshop.**

**Day 1, 09:00 - 15:30**

| Time | Topic |
|---|---|
| 09:00 - 09:15 | Opening remarks |
| 09:15 - 10:30 | A smart approach to innovations and their implementation to business |
| 10:30 - 10:45 | Coffee break |
| 10:45 - 12:45 | Introduction to a circular economy, practical examples of the 3R approach |
| 12:45 - 13:00 | Coffee break |
| 13.00 - 15.30 | Exercises |
| 15.30 | Closing remarks |

**List of slides**

Slide 1: Introduction
Slide 2: Lecturer
Slide 3: Agenda.
Slide 4: 3 Worst things that could happen.
Slide 5: Why to innovate?
Slide 6: Experienced people's thoughts.
Slide 7: Why innovating is that difficult?
Slide 8: Study case #1 – when innovation gets hit by the market
Slide 9: Study case #2 – innovation is not only about new product or service
Slide 10: Introduction to a circular economy
Slide 11: Linear vs. circular
Slide 12: Starting a circular design with the 3R principle
Slide 13: Reuse principle in a nutshell
Slide 14: Study case #3 - adaptive reuse on the example of Paradores and Albert Dock
Slide 15: Study case #4 - historic Hotels of America- adaptive reuse supporting marketing activities
Slide 16: Introduction to Recycle principle
Slide 17: Study case #5 - waste measuring tools fostering recycle policies - the example of Winnow
Slide 18: Study case #6 - how to approach eco-management in hotel industry – the case of Martin's Hotels
Slide 19: Reduce principle description
Slide 20: Study case #7 – shortening food supply chains
Slide 21: Study case #8 – Zero Gaspil – reducing food waste by a smart approach in meals serving
Slide 22: How to design a circular model – step by step introductory
Slide 23-25: Exercise #1- identification of the client and his needs (the pain list); available tools facilitating the process and their review
Slide 26: Exercise #2- prioritizing the pain list
Slide 27: Exercise #3 – Lean Canvas use in the process of circular model establishment
Slide 28-29: Exercise #4 – model tests/validation by using Pretotyping techniques.
Slide 30: Closing remarks

# GUIDE OF SLIDES

## Slide 1

Introduction. Brief survey onto audience familiarity with the circular approach in the economy.


## Slide 2

Lecturer. Information about the lecturer and his professional background.


## Slide 3

Content. Expected agenda for the day.


## Slide 4

3 Worst thing that could happen.


## Slide 5

Why innovating is vital for the business? What strategic gains are a result of the pro-innovative approach? Brief introductory of Blue Ocean Strategy.


## Slide 6


Inspiring quotes of Albert Einstein and Charles Darwin. Both brilliant minds are supporting the thesis of the pro-innovating mindset as the key to success in business life.

## Slide 7


Challenges related to introducing innovative solutions to the market. The Hype cycle of innovation. The distinction of time to market and time to profit periods and their impact on business cash flow.

## Slide 8


Building cool stuff, an exciting technology that has no business application. Must have vs. nice to have products on the example of Barobot (PL).

## Slide 9


The four types of innovation as defined In the Oslo Manual. Ziferblat case of process innovation.

## Slide 10


General characteristics of circular economy and business models established on its principles.
Short description of „butterfly" graphic introduced at the slide:

- Points of focus: Renewables and finite materials; biological and technological flows; consumer/user; some elements of business models such as virtualizing, sharing, redistributing; minimizing systematic leakage and negative externalities like toxic wastes.
- The two circles (butterfly wings): the green one is an example of renewable flow management - bio cycle, the blue one - an example of stock management - techno-cycle. Both are designed in a closed-circuit spirit. Organic materials follow a different reuse process than synthetic or industrial products. Therefore it is crucial to ensure the separation of bio and non--bio materials after use.
- Industrial materials, such as fossil fuels, plastic, and metal, have limited re-use options or cannot be re-used. One of the techno-cycle responsibilities is to design finite products after-use management. 'Using' instead of 'consuming' mindset is recommended. Enhanced value retention strategies focus on materials recovery after use.
- Organic materials, such as cotton, food, or water, can be processed by the ecosystem's natural, biological processes. In the bio-cycle, the ecosystem's independent operational capacity is an essential factor. Human activity may take place in the cycle (food, water, fertilizer usage) as long as the circulation of matter is ensured, as well as it does not cause the natural environment's contamination. When the ecosystem is balanced, organic materials are renewable.
- There are different sizes of "loops" of re-use within the techno--cycle. The general principle implies that that the smallest, innermost circles are preferred. The shorter circuit usually requires less processing activities, causing work, energy, or new materials usage.  As a result, more value is retained.
- Bio-cycle recycling is implemented in cascades. Cascading means the use of a  product (or a part of it) for a different application. When a product is no longer in a position to fulfill the primary function, it is given a new role in which it can be used again. While being process by following cascade levels, the quality of the material decreases, and energy is consumed. Cascading is different from reuse or recycling because of the role modification f.e.:
- Recycle: shredding old T-shirts into cotton fibers which are spun into new yarn,
- Re-use: selling used clothes at a thrift store
- Cascading: use of old T-shirts as cushion filler.
- A lifespan of a product should be designed for maximum durability. It can be achieved through:
- Ensuring that the moment when a product is discarded is deferred as far in time as possible, for example, by adding to other products, refilling options, or adaptability for a new purpose of use.
- Arranging several,  successive cycles of direct reuse before the product is repaired, by facilitating product maintenance, sharing model of provision, or the interchangeability of product.

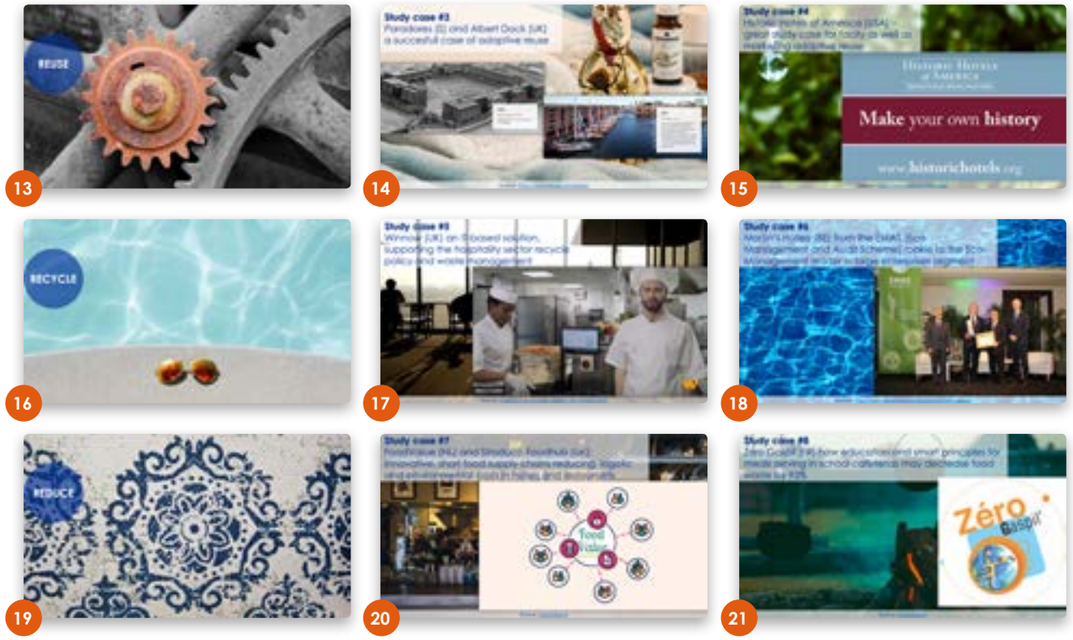
## Slide 11


Linear economy vs. the circular economy. The overall goal of the slide explanation is to point out that circular economy is considered to be a more sustainable alternative compared to a linear one. In the one-way approach, natural resources are extracted to manufacture products that are incinerated or landfilled after use. It is often described as 'take, make, and dispose.' Such a model expects the infinite supply of cheap, easily accessible materials and energy, with no boundary on the amount of generated waste. The essence of a closed-circuit approach, on the other and, is to preserve natural resources by retaining the quality or value of products.

## Slide 12


The 3R rule as an example of an easy-to-start approach once designing circular projects.

## Slide 13-21




Practical examples of 3R principles used by various actors of the tourism sector:

- Paradores (S), Albert Dock (UK) and Historic Hotels of America (US) - the examples of adaptive re-use in the hotel industry. The historical background of the facility used for accommodation services significantly strengthens the marketing potential of the object, as well as can be a source of its competitive advantage.
- Winnow (UK) an IT-based solution, supporting the hospitality sector recycle policy and waste ma-nagement.
- The case of Martin's Hotel (BE) – successful, step-by-step implementation of the Eco-management policies in the hotel industry, where managing staff had no previous experience in the field.
- Food Value (NL) and Stroduci Foodhub (UK) - innovative, short food supply chains matching local farmers with buyers from the tourism sector. A smart way for logistic and environmental costs-cut in hotels and restaurants.
- Zero Gaspil (FR) how education and smart principles for meals serving in school cafeterias may decrease food waste by 93%

## Slide 22

The design process of a circular project is composed of 8 consecu-tive steps:

- Beneficiary identification. Usually, two types of beneficiary ap-pear- external one (f.e. client) or an internal one (improvement of the company's internal processes).
- Pain list establishment. The success factor is to understand be-neficiary problems and a level of discomfort caused by each issue separately.
- Pain list prioritization.
- Preparation of a draft of a solution. There are several tools ava-ilable for the facilitation of the process f.e. the Lean Canvas, explained at slide no. 26
- Metrics establishment. Identified key metrics support project monitoring, and provide a more objective evaluation of its progress.
- Testing. Highly innovative projects usually represent the above--average level of uncertainty. In most cases, no benchmark so-lutions are available to support the project's market validation or assessment of its economic potential. Early-stage internal and external tests are recommended to confirm that the pro-ject represents the desired value for the money ratio.
- Review.
- Business decision onto project future and it's implementation.

## Slide 23-25

Identifying beneficiary needs is often challenging, especially in the case of an external beneficiary, who is not directly accessible. However, some tools can support the process f.e.:

- The empathy map.
- The value proposition canvas.
- Personas characterization.

Workshop participants should also be informed that some circular innovations regard the company's internal processes or operations and require no direct involvement from external stakeholders such as clients. The expected result improves organizations' internal processes; therefore, company related--staff may become project beneficiaries.

## Slide 26

Exercise regarding pain list prioritization by using a set of specified assessment criteria.


## Slide 27

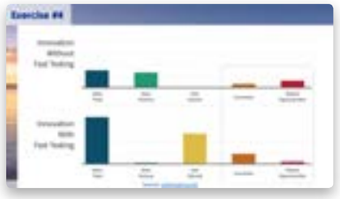
Designing a draft of a circular project. The tool used to facilitate the process: Lean Canvas. Instruction onto Canvas proper usage:

- Starting from the top right field (“Clients”). Workshop participants identify the target group of the action (beneficiaries).
- Next, the fundamental environmental problems of the targeted group should be established (top left field “Problems”)
- Consequently, the participant should focus their attention on possible solutions (“Solution”) answering identified needs. If more than one solution is applicable, choose the one that represents the most significant and unique value out of the beneficiary perspective (“Unique value”).
- Once establishing possible solutions, try identifying key metrics (“Metrics” field) that somehow justify the declared value or will allow to compare and contrast designed solution with competitive offerings/available alternatives.
- “Channels” refer to the designated means of communication with targeted audience, wheres “Unfair advantage” describes already possessed, hard to copy, access to the beneficiaries (f.e. strong personal network), which significantly facilitates or speeds up the approach process. If project is primarily focusing on company's internal processes “Channels,” and “Unfair advantage” fields may be skipped since the access to the beneficiary pool is structurally provided.

Subsequently, participants, supported by trainer, conduct an Lean Canvas exercise. Analised case: East Ayrshire (Scotland)- an example of sustainable approach to procurement of catering as a mean for broader social policies implementation.


## Slide 28-29

Alberto Savoia established a set of tools, techniques, and tactics designed to validate an idea for a new product or service market fit-in. “Pretotyping” is a smart way of making sure that designed solution effectively answers designated problems. The main focus is to test the idea fast, cheap, and by using a minimum volume of resources


## Slide 30


- Summary and a short discussion onto following issues:
  - Differences distinguishing linear and circular modules, which is more efficient in terms of sustainability/costs/resources usage?
  - What changes might be implemented in Your business?
  - What was new/known?
- Questions – Answers session.
- Closing remarks.

Guide for Trainers

# Design Thinking

for Circular Economy solutions

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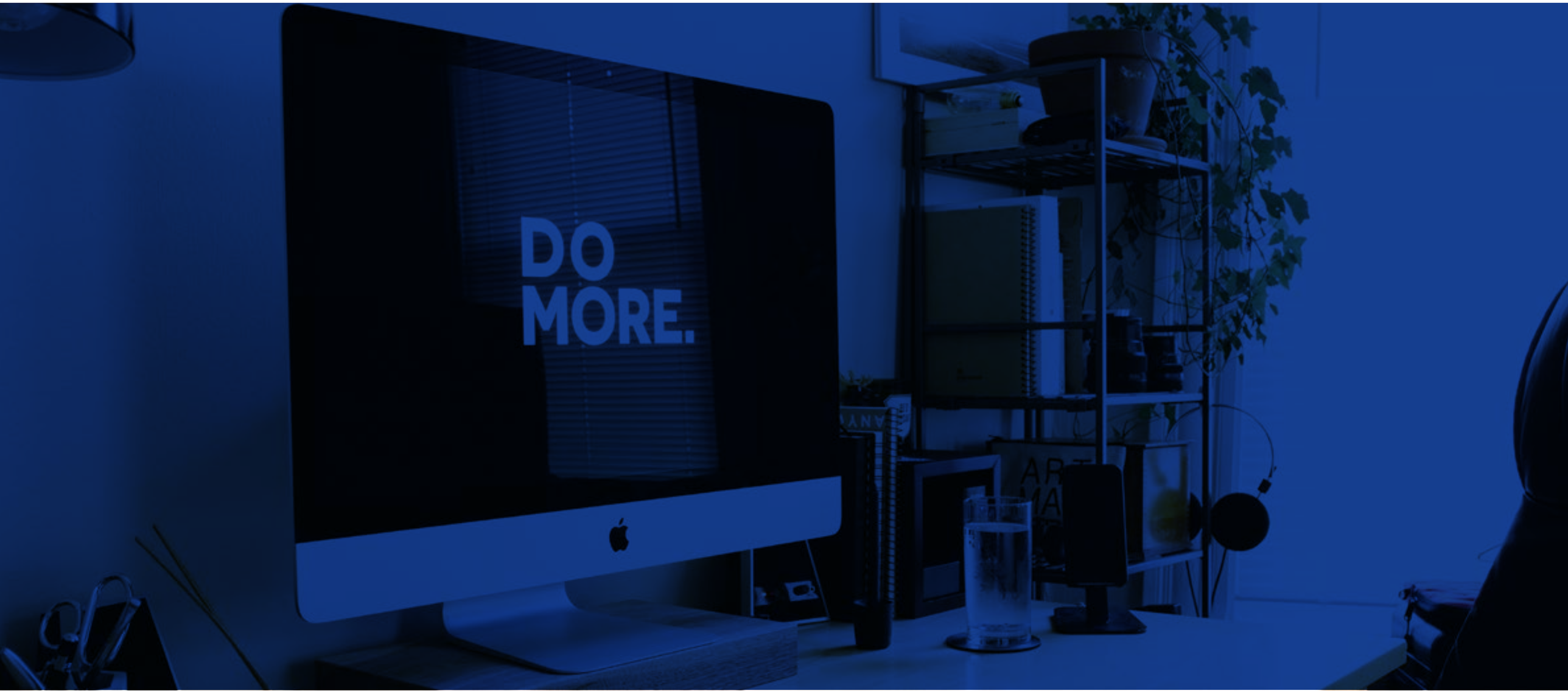



CIRTOINNO

Interreg South Baltic

EUROPEAN UNION

European Regional Development Fund

# INTRODUCTION

The goal of the workshop is to introduce the process of design thinking and tools that can be used by participants while developing ideas supporting a circular economy. Participants of the training should read the training materials (reference) to prepare their company to go through the process. Ideas generated during the process should be developed with the use of the Business Model Innovation and Marketing modules.

The primary goal of the training is to introduce the service design and design thinking approach to the participants and for them to learn how selected tools may be used to create a new circular solution for a business. Participants should understand the fundamentals of the process and the main differentiators.

**Furthermore, participants should be able to:**

- use selected tools relevant to all stages of the design thinking process
- validate an idea (developed concepts of products or services). Validate sacrificial concepts developed during the ideation phase.
- organize a project team in their organization

# SUGGESTED AGENDA

**DAY I** – 9:00-15:30

| Time | Topics |
|---|---|
| **INTRO** | |
| 09:00 - 09:15 | Getting to know each other |
| 09:15 - 09:45 | Brief Introduction to the Design Thinking Method (presentation) |
| **CHALLENGE** | |
| 09:45 - 10:05 | Defining future vision & goals |
| 10:05 - 10:45 | Defining scope of the project - possible challenge areas |
| 10:45-11:00 | Refreshments |
| **STAKEHOLDERS MAP** | |
| 11:00 - 11:30 | Creating a stakeholders map |
| **CLIENT-CENTRIC** | |
| 11:30 - 12:15 | Intro to qualitative research and research for inspiration (presentation) |
| 12:15 - 13:00 | User context and its environmental impact<br>- CJ with modifications - additional elements related to CE<br>Learning what problems can be solved |
| 13:00 - 14:00 | Lunch |
| **VALUE PROP & DESIGN CHALLENGE** | |
| 14:00 - 14:40 | Drafting Value proposition |
| 14:40 - 15:10 | Drafting Client-centric challenge |
| **WRAP UP AND NEXT STEPS** | |
| 15:10 - 15:30 | Summary of the workshop, introducing next steps |

- Expectations, hopes, risks, motivation
- Why we are here (agenda, end goals, relation to the Circular Economy etc.)
- Explanation of the sprint approach

- Redefining what design is (mindset)
- Design as a process and as a strategy (role, use, practice)
- Crucial elements of the process and tools (stages, tools - how and why)

- Naming and identifying possible areas of improvement
- Making a brief decision on what to focus on (client potential vs. circular economy based innovation/change potential)

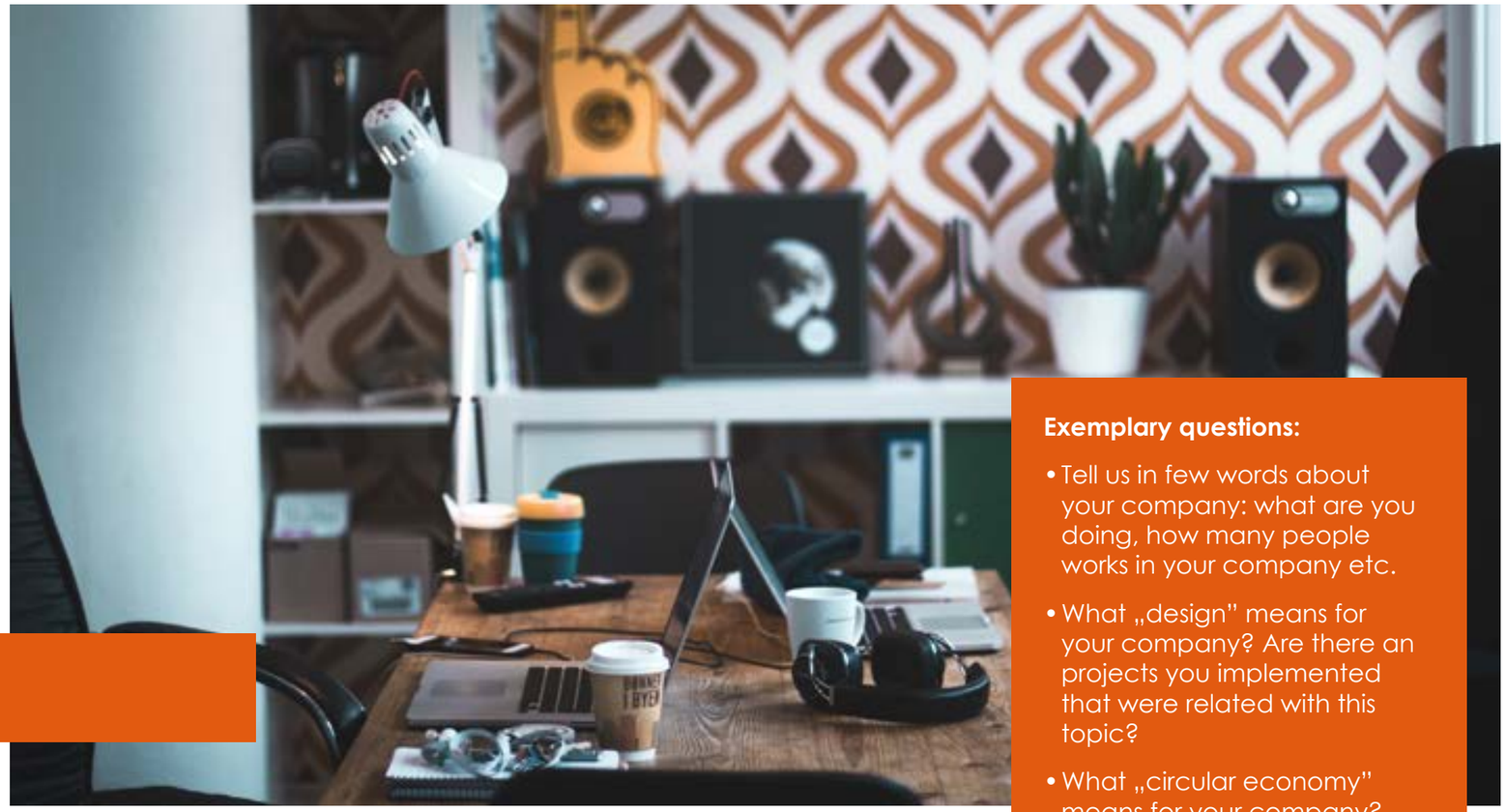
- Learning about user needs and how addressing them can bring value to the business
- How to conduct research without big financial contribution
- Presentation of a low risk/low barrier research methods. My company as a source of R&D
- Persona with elements of empathy map

# SUGGESTED AGENDA

**DAY II** – 9:00-15:30

| Time | Topics |
|---|---|
| **GENERATING IDEAS** | |
| 09:00-10:30 | Introduction to generating ideas<br>Ideation based on selected creative techniques |
| 10:30 - 10:45 | Refreshments |
| **SELECTING IDEAS** | |
| 10:45 - 12:30 | Selecting ideas according to defined criteria: user needs / business value / circular effect |
| **PROTOTYPING AND TESTING** | |
| 12:30 - 13:00 | Prototyping concepts<br>- introduction to prototyping<br>- Storyboard |
| 13:00-14:00 | Lunch |
| 14:00 - 15:00 | Testing concepts |
| **IMPLEMENTING DESIGN THINKING IN THE ORGANIZATION** | |
| 15:00 - 15:30 | Workshop summary - how we can use tools in our companies |

# OBJECTIVES



The training should be provided by a person who has at least basic experience in design thinking methodology. Since a training is based on this approach requires flexibility and ability to adjust methods to needs and dynamics of each group.

The training can be delivered to members of a few companies - represented by 1-2 employees. In this case, it should be considered as a possibility to introduce methods and approach and not a way to develop a concept that can be used by this particular company. In this case, representatives of different companies will work in mixed groups. Thus, handled topics will be more general.

Design thinking is a collective experience. It is therefore recommended that 4-5 employees represent each company that participates in the workshop. It gives a chance not only to explore the tools but also to work on a topic that is accurate for a particular company.

An introduction to the circular economy should precede the workshop e.g. Module 1 of this training or the CIRTOINNO handbook (references). Participants should attend an training dedicated to the Circular Economy topic before design thinking workshop. Additionally, it is worth to present some examples of circular ideas before the ideation session. Especially ones that depict that circular ideas can include also relatively small changes.

During the training, participants use their observations to define customers and their needs. Before the workshop, participants may be asked to conduct a short survey among their customers so they can use the knowledge in the workshop. The survey should focus on such topics as their needs, importance of green solutions, elements of the offer that are crucial for them.

**Exemplary questions:**

- Tell us in few words about your company: what are you doing, how many people works in your company etc.
- What „design" means for your company? Are there an projects you implemented that were related with this topic?
- What „circular economy" means for your company? Are there an projects you implemented that were related with this topic?
- What's the crucial challenges you meet running the company (ex. No interest of customers during the winter)
- What you have done in last years for minimizing an impact on the environment?
- Who is the most important stakeholders for you? (except customers)

It is recommended that two trainers deliver the training if the group has more than 12 participants.

# GUIDE OF SLIDES

Below you will find a description of each slide included in our presentation. Please keep in mind that it is just a framework and our recommendation. You can adjust the schedule and the content according to the group needs and expectations.

Our primary goal here is to equip participants with the tools they can use to change their business and not only to make them understand what design thinking is. We want to encourage SME representatives to find a way of implementing design thinking approach in their organization and show that even selected tools may bring value.

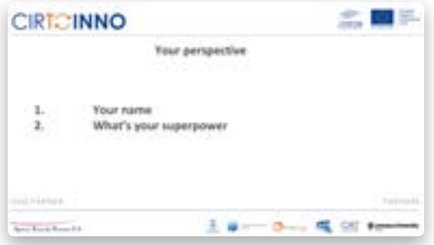
# DAY 1

## Introduction to design thinking approach. Understanding customer.


### Slide 1
### Presentation of the topic of the workshop

The trainer should emphasize that the workshop is concentrated on how design thinking may be used while creating circular solutions and not on design thinking as such.


### Slide 2
### Trainers introduction




### Slide 3
### Participants introduction

Participants should write on sticky paper their names and what is their superpower. For instance: Anna, simplify what's complicated, Mark, asks tricky questions. Papers may be used as name tags.


### Slide 4
### Expectations

It is essential to learn what are participants expectations for the workshop. Participants should write on sticky notes what are their hopes and aspirations. Moderator collects notes, cluster them and provide a comment on a selection on them. It is important to let participants know what expectation will be addressed during the workshop and which are not within the scope of it.

## Slide 5
## Plan of the workshop

Briefly, introduce the schedule of the workshop. Point out that participants will experience "a sprint approach." It means that they will spend on each activity limited time, and experience the whole process. Participants will learn how to use tools and can use them in their company after the training and spend some more time working on them. It is especially recommended if during the workshop they were working in mixed groups - together with representatives of other companies.


## Slide 6
## Design thinking

In the next few slides crucial assumptions related with design thinking approach will be presented. It is worth to ask participants if they have heard or used design thinking approach. If so, they should be encouraged to share with their expe-riences during the whole training.


## Slide 7
## Triggers of change

Graph depicts three main triggers of change that are strongly related to each other:
- Consumers expectations
- Changes in technology
- Changes in business models



## Slide 8
## Design thinking as a connector

Design thinking helps to find solutions/ideas in which three mentioned aspects are taken into consideration.


## Slide 9
## Fundamentals of design thinking approach # 1

From slide 9 to 13, fundamentals of design thin-king approach are presented.
Slide 9 introduces the first element: **User in the center**
A user in the center is most important in design thinking mindset. It means that to create good and useful products and services we need to learn what are the needs, fears, expectations of our customers, what are their habits, what may motivate them to change, etc. Circular solutions are very often related to a need for changing behaviors, thus we need to understand current behaviors and motivations behind them. While designing our solutions we need to take care also for other stakeholders engaged in the pro-cess: employees and suppliers need to learn about their needs and expectations because just services where all parties situation will be impro-ved may work well.


## Slide 10
## Fundamentals of design thinking approach # 2

The slide presents the second crucial element for design thinking: **Interdisciplinary work**
Design thinking is a collective activity. It requires to set up an interdisciplinary team that can contribute to the topic. Employees, users, exter-nal experts can form the team. It is important to have a diversified group so various perspectives will be included. In projects that should lead to a circular change, it is worth to invite also represen-tatives of vendor companies.

## Slide 11
## Fundamentals of design thinking approach # 3

The third element of circular elements is presented:

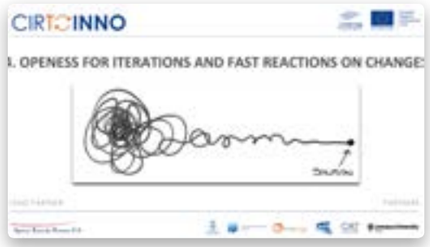
**Rapid prototyping and testing with users**

During the design thinking process, we try to learn as much and as fast as possible. To verify if our ideas are right, we prototype them with simple materials and collect feedback from its potential users. It helps to use resources in the company in a more efficient way as we don't spend months on building products that no one wants. Examples of prototypes: storyboard, leaflet, poster, mock-ups of application of webpage.


## Slide 12
## Fundamentals of design thinking approach # 4

**Openness for iterations and fast reactions on change**

The process requires constant learning. While collecting information, we may decide that one step back need to be taken to collect more data, verify information, etc. Making a step back means to take a look on previously take actions (e.g. conducted research) and decide if they need to be repeated or other activity with the same goal should be introduced to collect additional information, generate other ideas etc.




## Slide 13
## Fundamentals of design thinking approach # 5

**Creative and analytical thinking**

The process requires from its participants both creative and analytical thinking. It means that very often we may feel not too comfortable with one stage of the process but in next, we think another way around. Thus, it is even more critical to remember while building the project team to compose it of people with the different way of thinking.



## Slide 14
## Main stages of the process

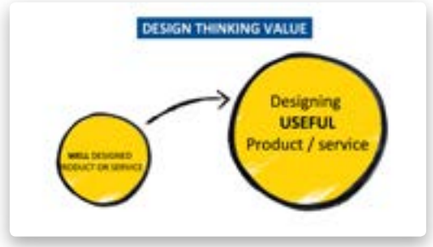
Graph depicts 5 main stages of the process. Each step should be described very roughly, as participants will experience them during the whole training.

**Design thinking is composed of the following 5 stages:**

- Discovery/ Empathize - learning about the needs of users, identifying the desired change of the current situation
- Defining the problem - naming the problem that needs to be changed to achieve the desired goal
- Ideation - generating solutions that can solve the problem
- Prototyping - making selected ideas tangible
- Testing - checking with users what they think about a created solution


## Slide 15
## Design thinking is not copy thinking

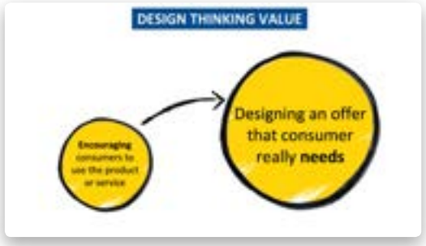
The slide reminds that design thinking should help to find new solutions. Its goal is not to be copied and implemented what others already do.




## Slide 16
## Design thinking value #1

Slides from 16 and 17 depicts value that design thinking brings.
Slide 16 presents that what is usually perceived as a value in product and services is that they are well design. Designing useful products and services is what we want to achieve using design thinking.

## Slide 17
## Design thinking value #2




Companies plan their activities to encourage their customers to use their products/services. We want that the effect of using design thinking would be an offer that users need and thus they don't need to be encouraged to use them. They can easily see the value in it for themselves.

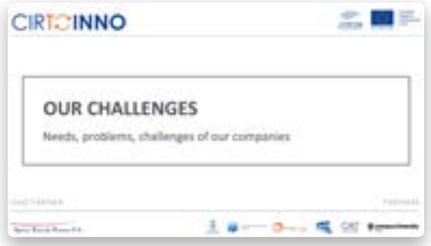
## Slide 18
## Product/service vs design


Slide presents that behind product and services there is a design. It is something "under the water," customers can only see and experience tangible results of it (product/services) but not the whole "thinking process".

## Slide 19
## Design questions


When we talk about design we are talking about asking the right questions:
Why do we want to make a change in our organization/product? For whom we design the difference?
How do we want to make the change? What are the products and services that will "deliver" the change."

The order in which questions are asked is important and not only the questions itself. We should always start with Why? and then ask Who?, How?, and What? Not the other way around, as we are used to.




## Slide 20
## Design challenges

From this moment on participants will start to use selected tools to find solutions for their problems. In the beginning, the group needs to decide what challenge/problem they want to phase. It is important to emphasize at this moment that the process should be used to face "**wicked problems.**"

Wicked problems are those that do not have just one right solution, involve many stakeholders, have different reasons and affect different areas, are vague, need to be clarified, and their fundamentals need to be identified.

Examples of problems that are appropriate: what to do to encourage a new group to visit our hotel, how to assist customers not to waste the food if there is a buffet, how to make a SPA more efficient (not in technical aspects but the way the customers use it) etc.

Participants may decide if they want to work in mixed groups - representatives of few companies in one group or split according to the company they represent. As it was mentioned before, going through the process is a collective activity, in both cases the recommended group size is 5-6 persons, the minimum number of participants in a group is 4.

## Slide 21
## COVER STORY


Exercise 1 : COVER STORY

The Activity may be introduced after the groups decide what challenges they want to face. The activity was originally presented in the book Gamestorming (trainer may recommend this book/ webpage as a great resource of references.  We simplified and adjusted the tool to the purpose of our training.

As an introduction to the task the trainer should recall the difference between output and outcome.
In design thinking output and outcome are perceived as two different concepts. The output is understood as solutions (example: webpage, meeting, a new way of providing the service). On the other hand outcome is the description of the new desired situation. In the design thinking approach it is important to first identify what change we want to make before we think about particular solutions.

The activity helps to name what is the required outcome.

Detailed description of the task is presented in Appendix 1.

## Slide 22
## Stakeholders


In the next step we will try to identify stakeholders that are important for our project. As a stakeholder we understand everyone who may affect on our project and those we will have affect on. Analyzing stakeholders is especially important for circular projects as it presents ecosystem we are part of and inspires to cooperation.


## Slide 23
## Stakeholder map

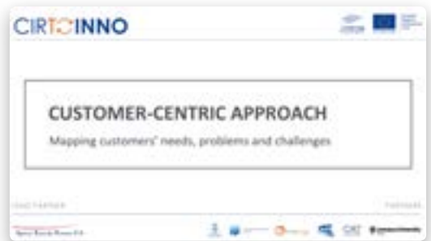
Stakeholder map is a tool that help us to gather and systematize knowledge about stakeholders. At presented  example we identified follow type of stakeholders:

- Internal: employees (specific groups or roles), trade unions;
- External directly affected: customers, suppliers, financiers or investors, communities;
- External indirectly affected: media, competitors, NGOs, special interest groups, government institutions, consumer advocate groups.


## Slide 24
## STAKEHOLDERS MAP

**Exercise 2 : STAKEHOLDERS MAP**

The slide is an introduction to Stakeholder map activity.
Detailed description of the task is presented in Appendix 2.




## Slide 25
## Customer perspective

Participants have identified what problems they have and what they want to achieve as a company. From this moment we will try to change perspective and learn what is important for our customers.

## Slide 26-27
## Persona – 1


Persona is one of the most common tools used during the designing process. Slides 27-28 help to introduce the topic to participants.

Persona is an archetype of the user. The description that displays the essential characteristics: motivations, expectations, problems, lifestyle, etc.

It is vital to inform participants that Persona should be built with the use of information gathered during the research phase as if you make it just using your believes it may be very stereotypical. For the workshop purposes, Persona will be prepared based on participants knowledge and experience. To avoid creating confusion it should be named as "proto-Persona." The difference between persona (formed on a base of data from research) and proto-Persona (build based on team experiences) should be clarified.


## Slide 28
## Persona - 2


The trainer should explain that description of a potential user as presented on the slide is not enough if you want to use design thinking as behind the short story many completely different person can be identified. Different understand as having diversified motivations, problems, expectations etc.

## Slide 29
## Persona - quote


A quote is presented to emphasize that best expert from the products are those who are using them.

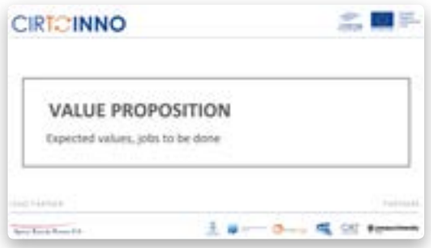

## Slide 30
## PERSONA

**Exercise 3 : PERSONA**

The slide is an introduction to the activity "Persona."

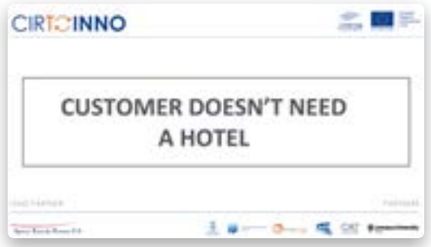
The participants should create a persona for their projects. There may pop up a question on whose persona they should create if there are at least a few groups that want to be reached with their solution. In this case, they should be advised to create a persona of representatives of groups they want to achieve first, one that has the most significant potential.

Detailed description of the task is presented in Appendix 3.




## Slide 31
## Value Proposition

Value Proposition may be perceived as an extension of the Persona. It is a tool that helps us to analyze values that are important for our customers and the jobs they need to do.




## Slide 32
## Customer perspective

The slide emphasizes that the way of thinking about customer needs should be redefined. We used to believe that customers want cars, hotels, etc. However, if you think about it, we do not need a hotel but a comfortable place to stay at night when we are not at home. We do not need a car but to move from one place to another. This way of thinking opens a whole new spectrum of ideas of how we can answer to the need, and there are always more than one way to achieve that.

## Slide 33
## VALUE PROPOSITION


**Exercise 4 : VALUE PROPOSITION**

Activity should be introduced to participants.

The value proposition canvas is the next tool that helps us to understand our customers better. It helps to understand what jobs or tasks related to our project persona we need to do and what can be helpful while fulfilling them and what can be challenging.

Detailed description of the task is presented in Appendix 4.

## Slide 34
## Customer Journey




Customer Journey is a tool that helps to understand our customers better, especially explore the way they use the services or products we want to develop.

Alike with Personas, a Customer journey should be built with knowledge from research. Thus, the one made during the workshop can be handled as a hypothesis. It is recommended that participants after the workshop will conduct their research: in-depth-interviews with customers that fit their persona profile, observations etc. They should use collected data to validate.

## Slide 35
## Natural paths


Illustration on the slide depicts that even if there is a way we want someone to go, he/she will find him/herself the most convenient way. Our job is to identify how users really use services, and how their journey looks like.


## Slide 36
## Experience and emotions

Slide highlights that using a service from a customer perspective also has an emotional aspect and is itself an experience. While thinking about our services we should concentrate on what emotions it awakens, and not only on what the customer is doing.


## Slide 37
## Touch-points

The slide explains how customers perceive services.
It presents examples of elements that build the service: products, marketing, online tools, printed materials, and people we meet on our way. The trainer should point out that from the customer perspective using a service is one experience. Thus, it is not important which department in the company that is responsible for the touchpoint.


## Slide 38
## CUSTOMER JOURNEY

**Exercise 5 : CUSTOMER JOURNEY**

Introduce the next activity to the participants.

The customer journey helps us to imagine how a Persona is using the service. It may be used at the beginning of the process to learn where any potential areas can be improved or /and to present how a new solution may work.

The customer journey is composed of four stages:
- Awareness
- Decisions
- Use
- Grow/leave

Detailed description of the task is presented in Appendix 5.

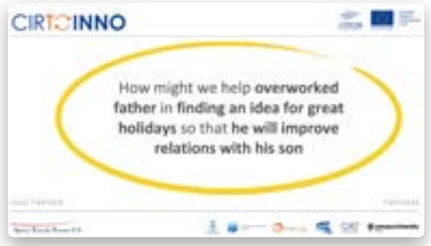
## Slide 39
## How might we…?

The slide is an introduction to the next stage of the designing process. From the stage **Empathize** (stage 1) we will move to the stage **Define the problem** (stage 2).


## Slide 40
## Example

An example of defining the design challenge is presented.

The trainer should discuss crucial elements of the challenge: a defined group, problem, and expected outcome. It should also be highlighted that the challenge can neither be too narrow or too wide.




## Slide 41
## HOW MIGHT WE…?

Exercise 6 : HOW MIGHT WE…?

After analyzing pains, gains, and jobs to be done, participants should define a design challenge. In the beginning, each participant may try to set it, but in the end, one problem per group should be defined.

Detailed description of the task is presented in Appendix 6.


## Slide 42
## Summary - Day 1

Crucial elements of the day should be recalled, and they should be linked to the stages of the process.



# DAY 2

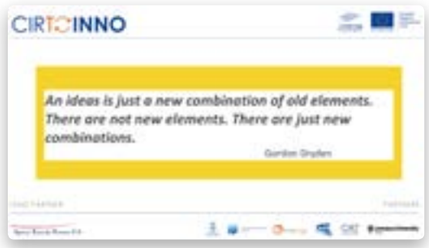
Solving the challenges defined during day 1

## Slide 43
## Creativity

The second day of the workshops begins with the Ideation phase, on which creativity plays a vital role. The role of the trainer is to make participants of the workshop feel more comfortable with the fact that it is an aspect to generate an idea, especially that in many cases they are not used to such methods of work.


## Slide 44
## Creativity - quote

The quote presents how creativity is understood in the process. We need to emphasize that creativity is something everyone can achieve. Sometimes we make it asleep and need to awaken it.




## Slide 45
## Stages of ideation phase

Illustration presents two main stages of the creative process: the quantitative where we are focused on generating as many ideas as possible, without judging them, and the qualitative phase where we select designs that meet our criteria. Most commonly it is verified if the concept meets customers needs and at the same time enable to reach business goals. In our case, they are equally important if the idea has a circular potential.


## Slide 46
## Creativity as a part of organizational culture

Information on the slide highlights the fact that it is the responsibility of an organization to give space to its employees to improve the services they deliver.



## Slide 47
## Phases of creative process

The slide presents elements of the creative process:

- Immersion - it is a phase when we learn about the problem, to be able to generate ideas we need to understand the topic well. In design thinking, it is usually equal with discovery/empathize phase of the project.
- Transformation - that's the moment when we work on our ideas. In our case with the support of tools that can wake up our creativity and motivate us to think outside the box
- Incubation - it happens after the workshop when we start to do other things, but our brain is still working on the concept
- Illumination - that's so-called 'aha' moment when we put all puzzles together can see any solution that is appealing to us
- Verification - testing the idea with others: co-workers, users, etc. collecting information about their opinions

Elements of natural creative thinking are intertwined in design thinking.


## Slide 48
## CASE #1

On slides 48-50 cases of circular solutions are presented. They were selected to highlight that changes  don't need to be always huge and sometimes small idea can have a great impact.

Reduce: Simple change in product choice lowers energy consumption

Gavarni Hotel located in Paris has switched to towels made from organic cotton in the beige colour that allows them to be washed at 30 degrees Celsius and therefore saved energy cost. Following this choice, the hotel has selected organic cotton or eco-labelled cotton, avoided excessive sizing, as well as has selected durable polyester--cotton blends or linen for bed sheets. The energy consumption of 50/50 polyester-cotton over 100 laundering cycles is 42 % lower than for pure cotton sheets because of the durability of polyester.

## Slide 49
## CASE #2


**Reuse: Coffee grounds closed in the loop**

Coffee is a very ineffective product, because only 0.2% of it is consumed in a cup of this drink. **Rotterzwam**, a Dutch company, has used coffee grounds waste to grow oyster mushrooms. Company uses the enzymes that are in these coffee grounds to create a new product suited for human consumption. The mushrooms are sold locally in restaurants and catering. Additionally, traditional Dutch snacks such as bitterballen and krokketten are made from these oyster mushrooms, creating a high-value product.

## Slide 50
## CASE #3


**Recycle: Changing waste management habits and procedures**

**The Savoy hotel** in London is a classic, luxury five-star venue employing over 600 staff members. It offers 268 rooms and 62 suites, two restaurants, two bars and a tea room. In 2010 it has been reopened after major makeover and has implemented new waste recycling program. It included staff training to relearn procedures and habits, as well as daily staff briefings to incorporate environmental management topics, including waste separation, reuse and recycling. In result, over 95 % of non-food waste is now kept from landfill and unsorted waste generation for the hotel and restaurants is equivalent to approximately 0.3 kg per guest-night. Additionally, organic waste in the amount of 344 tons per year is separated and sent for energy recovery.

In Appendix 10 other examples are presented. They can be used to have some more inspirations during the workshop.

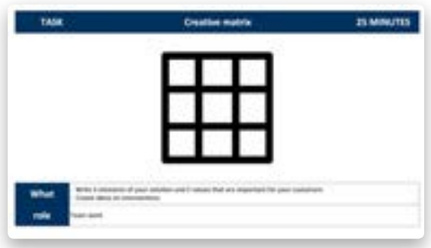

## Slide 51
## ANALOGY

**Exercise 7 : ANALOGY**

The first creative activity is introduced. Before participants start to work on it, it may be beneficial to organize "warming up activity" eg. in 5 minutes participants need to find 30 ways what to do with an old box.

While introducing the activity, it is essential to highlight that all ideas should be written, that they should not think if the concept is possible to implement. The warm-up activity can be used to depict this rule.

Detailed description of the task is presented in Appendix 7.




## Slide 52
## CREATIVE MATRIX

**Exercise 8: CREATIVE MATRIX**

Creative Matrix is next tool that wakes our creativity up.
Detailed description of the task is presented in Appendix 8.


## Slide 53
## SELECTING IDEAS

**Exercise 9: SELECTING IDEAS**

We recommend using a two-step selection process. First of all, we will use the graph as shown on the slide. Detailed description of the task is presented in Appendix 9.

## Slide 54
## Prototyping

Next stage of the process is **Prototyping**. At this stage, participants will concentrate on developing ideas that they have selected.


## Slide 55
## Prototyping - definition

Prototyping definition used in service design projects.


## Slide 56
## Why do we prototype?

On the slide a few reasons why prototyping plays an essential role in the designing process are presented.


## Slide 57
## Prototyping principles

Prototypes principles are presented. It is especially important to highlight that Prototyping is a continuation of the creative process.



## Slide 58
## Examples of prototyping methods

A few examples of how the prototypes methods will be introduced. It is important to mark that prototypes should present the value of the solution, and what makes it unique.

It is important to mention, that just a few ways of prototypes are about to be presented. Participants should be encouraged to find their own way to the present a solution. A poster or a leaflet is also possible.


## Slide 59
## Service origami

Service origami is a mock-up that presents how the newly created solution may work. Especially engaged actors and interactions between them. It may be helpful to show how the solution is used.


## Slide 60
## Paper prototype

The paper prototype is used to show how screens of online solutions may work.


## Slide 61
## Storyboard

**Storyboard** is a simple comic story that depicts how a service works. Very often it is the first prototype that is prepared to understand how a whole solution can work.

## Slide 62
## Roleplaying

**Roleplaying** is another way to present how a service may work. It is especially useful if the core idea is about face to face relation between service provider and user for ex. customer service, call center  etc.


## Slide 63
## Movies

Short movies that present how solution works may be prepared. No professional equipment is required, you can use your phone.


## Slide 64
## Storyboard

Exercise 10 : STORYBOARD

We recommend that a storyboard should be the first prototype. It helps to see how the whole concept works. Encourage participants to draw simple pictures. The most important is to show what is crucial and unique with the solution.



## Slide 65
## Testing

Exercise 11 : TESTING

Explain to participants that they should test the concepts with their users that fit to the Persona profile. However, for workshop purposes, they will present ideas to each other, as we want to show how to collect feedback from others.

Before presentations, participants should write down questions they want to ask. It is essential to explain that it is not selling presentations and they should not explain to users why the solution is good, but listen to how others are thinking. Two types of information should be collected: what is a potential risk with the solution and what is perceived as especially interesting with the solution.

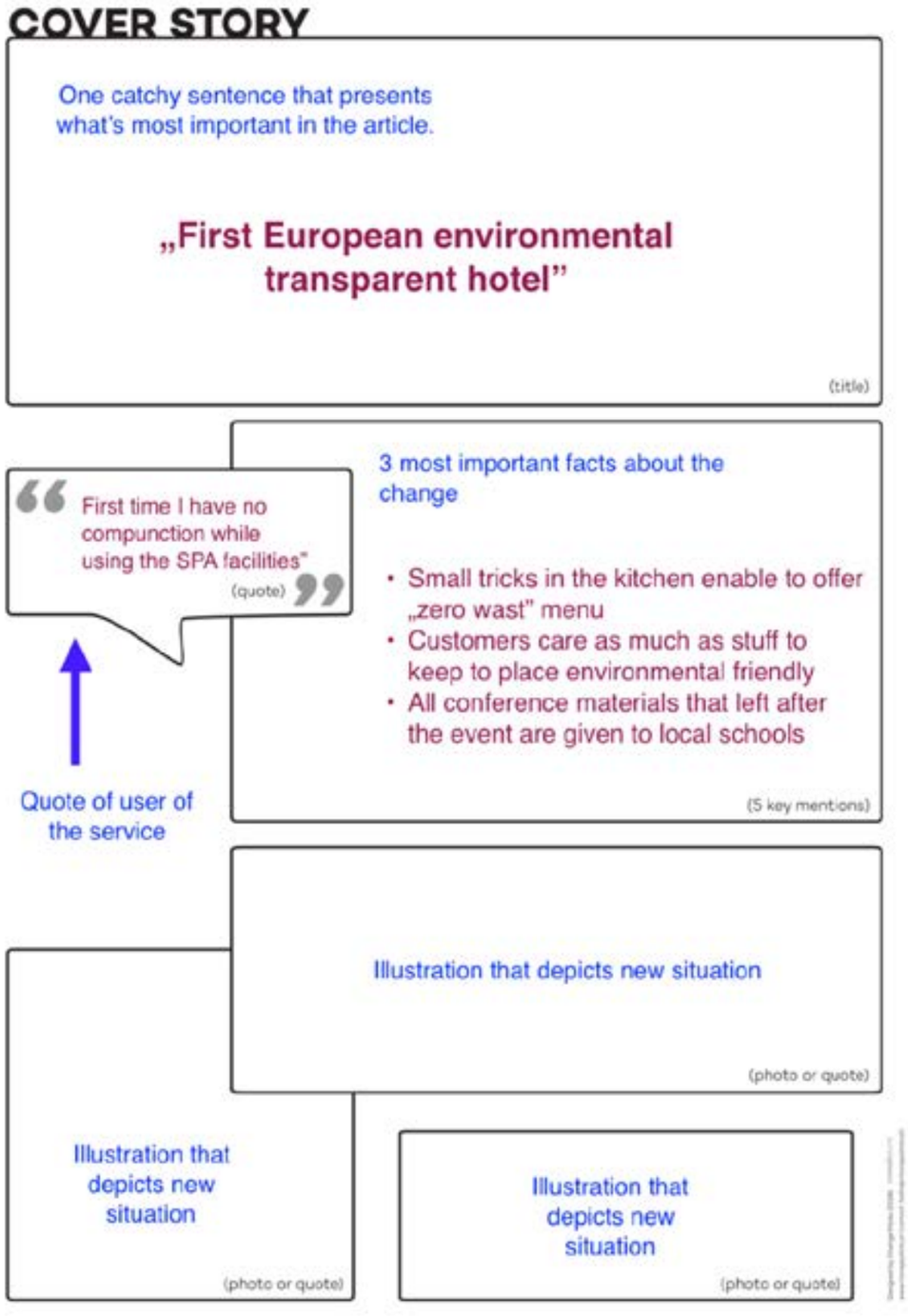
After testing, the participants should think of what changes they should do in their projects to make it more relevant.


## Slide 66
## Thank you

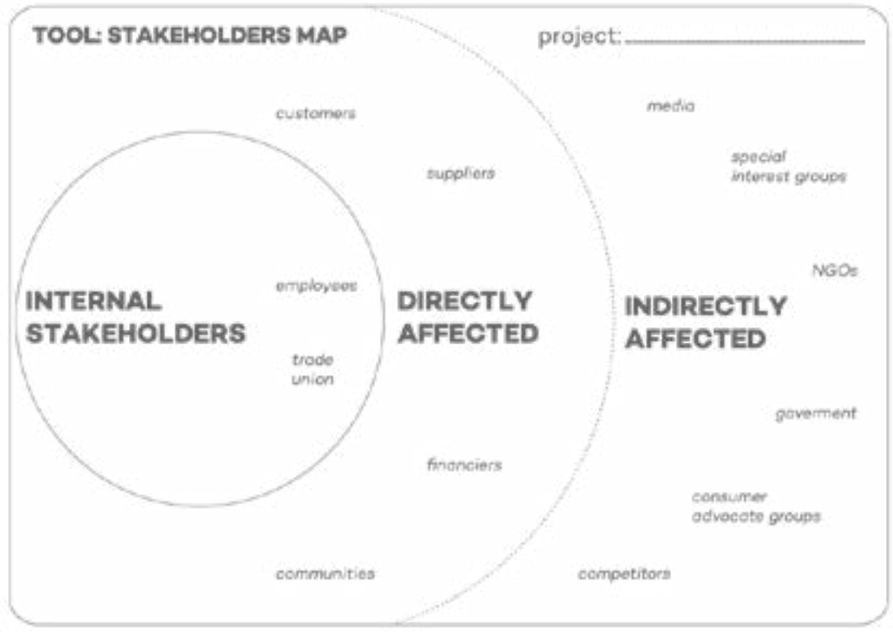
At the end of the meeting, the trainer should collect feedback from the participants. We also recommend asking how participants want to use the presented tools in their organizations.

# APPENDIXES

# APPENDIX 1




# APPENDIX 2
# STAKEHOLDERS MAP




**Introduction to the activity:**

Stakeholders are all individuals and institutions that influence company and its activities, participate in the creation or implementation of selected company projects or are directly interested in the results of the implemented projects. The company can be positively or negatively influenced by stakeholders (directly or indirectly). Also, the company's activities can bring them positive or negative changes. Stakeholders map creates an example of general 'big picture' of the design environment and is an important type of knowledge for a design thinking team to poses.

Based on the initial research and interviews conducted a preliminary, general mapping of stakeholders should be generated for the purposes of analysis and synthesis of the industry and company dynamics as well as relationships. This activity helps to frame an internal and external impact on the company and the impact on potential future product or service design concepts. Only key and important stakeholders should defined. The purpose of this mapping is to gather information on what type of people or institutions have crucial influence to be taken in the consideration during the design thinking process. Additionally, it is important for researchers to see the whole network of related people and companies after and during the research process.

# APPENDIX 3
# PERSONA

The recommended canvas of Persona is adjusted to projects that goal is to find a circular solution.
It is composed of the following elements:

- Motto - One sentence that shows what is important for the persona.
- Life goals – What is our personas' ambitions? (Eg. Being a great parent, being an expert, etc.)
- Experience goals - What are the desired experiences? (Eg. Be a better version of him/herself)
- How the persona wants to feel while using the services?
- Detailed goals – What are the goals related to using the service that the persona want to reach?
- Influencers: Who has an impact on the persona? Who is perceived by the persona as a role model?
- The way and style of using the service (eg. hotel /restaurant):
- How our persona is using the service we want to redesign? Is he/she eg. visiting the hotel to relax or as part of a business trip?
- How essential are additional services for the persona etc.

The significance of environmental impact/willingness to change or try new solutions/

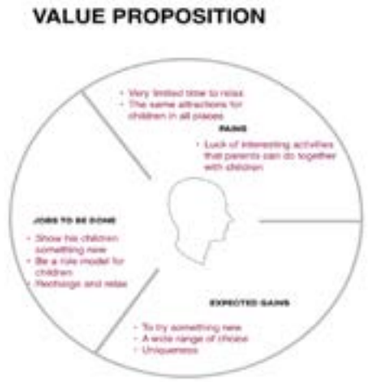


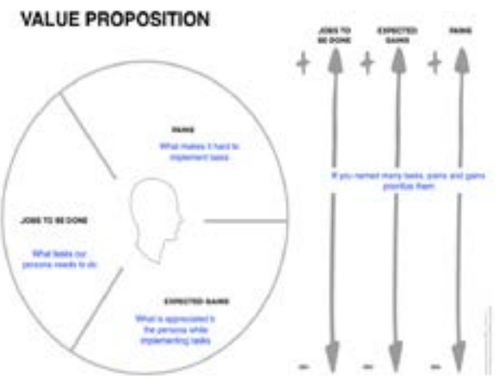
# APPENDIX 4
# VALUE PROPOSITION

First of all, activities to be done should be identified and written down.
We should answer the question "What tasks do our Persona need to do?".
Participants can decide if it will be more beneficial for their project to write in „Job" sections:

- list of tasks. For example: book a hotel, buy guide book, order taxi to the airport
- more goal orientated jobs. For example: being a great parent; have great stories to tell friends; take care of work-life balance

Next, participants should name what makes it challenging for the Persona to implement tasks ("pains") and what the persona has appreciated while executing tasks ("expected gains").

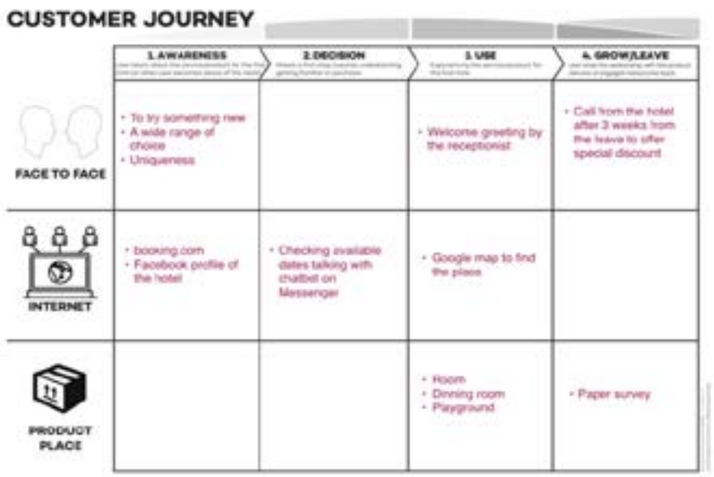


# APPENDIX 5

The participants should fill in a form to show how customers are using the services currently.

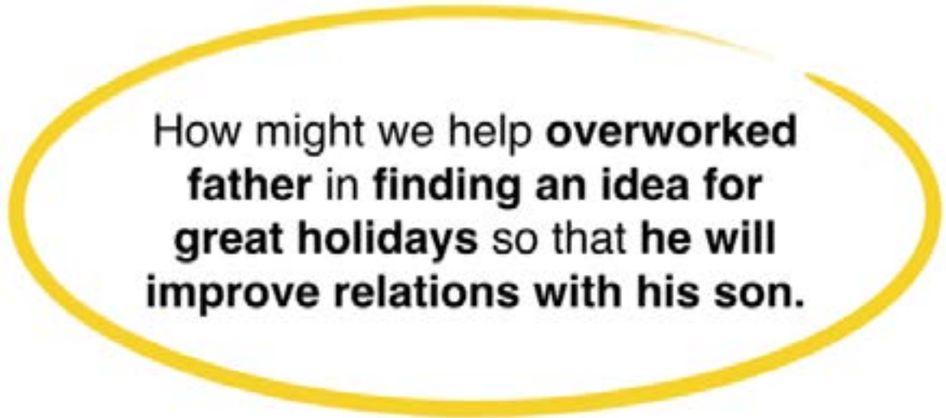

Later areas that may be improved, that can have a circular potential should be marked.




# APPENDIX 6
# HOW MIGHT WE…?

**Introduction to the activity:**

The "How Might We …?" activity is a framework question for the Ideation phase. Before jumping to ideas we reframe the Design Challenge into a very specific "How Might We … ?" question that will become a key benchmark during the ideation phase and keep everyone focused on the cause we are designing for.
Such framing of a Design Challenges should be based on key problematic, unsolved or 'burning' touch points from the Value Proposition profile or Customer Journey. In practice usually, 3-9 main design challenges are created while some extra ones are left as supportive for further consideration.

# APPENDIX 7
# ANALOGY

The first creative activity is named Analogy. It can be split into the following parts:

- Write 5 analogies to your expectations about problem solution (Ex. Low season in the holiday should be like a big family celebration; Using SPA should be like networking session) The analogy that is less connected and most surprising should be selecteAdd characteristics to chosen analogies. The tricky thing here is that all the descriptions should be positive or neutral, they should not be negative (eg. family celebration - meeting with family members we do not see so often; splitting responsibilities during preparation; everyone comes with stories to share, etc.)
- Go back to the first problem. Ask for the description and think what they mean for our challenge eg. What can we do to "meet with family members we do not see so often" in low season? - eg.

When you come to our hotel with a group of 7 friends in the low season you can invite two more people to come etc.

Participants should write down as many ideas as they have but not less than 10.

# APPENDIX 8
# CREATIVE MATRIX

**Exercise:**

| | Calm | Indepen-dence | Freedom | Creativity | Honesty |
|---|---|---|---|---|---|
| Booking | After you cook a stay you have 7 days to change your mind and reject or change the reserva-tion | | you can book a room for half a day as an op-tion to full days | | |
| Information | | Chatbot an-swers ques-tions related with hotel/ reservation 24/7 via Messenger | | Information is presented in a form of comic book | |
| Cosmetics | | There is one place in the hotel with wide range of natural cosmetics and every-one can chose one to try it (and leave it back) | | | Additional information about each ingredient of cosmet-ics are pro-vided |

1. Write down 5-7 values that are important to your customers. You should be able to identify them thanks to the Persona profile that was created during the first day of the training. Eg. calm/ independence/ freedom/ creativity etc. On pur-pose of our additional goal of circularity write circular (even if it is not important to our Persona).
2. Write 5 elements of the "issue/service" you are trying to modify. For example, if you are designing a new, more circular, way of using a spa you can write down: booking/ cosmetics/ treatments/ information provided about a spa etc.
3. Add values in a row and elements in a column. Your task is to generate ideas on "intersections" like freedom/ reservation - idea: you can book a room for half a day as an option to full days.

Do not think if you want or will be able to implement the idea. Concentrate on filling in the matrix and having fun. At this stage, you do not need to worry if it is functional or not.

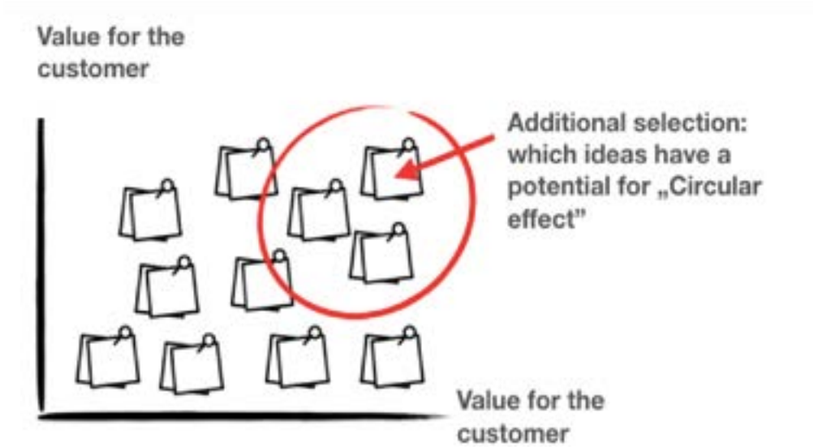
**Table 1. Creative Matrix**

| | Value 1 | Value 2 | Value 3 | Value 4 | Value 5 |
|---|---|---|---|---|---|
| Element 1 | Idea 1 | Idea 4 | Idea 7 | Idea 10 | Idea 13 |
| Element 2 | Idea 2 | Idea 5 | Idea 8 | Idea 11 | Idea 14 |
| Element 3 | Idea 3 | Idea 6 | Idea 9 | Idea 12 | Idea 15 |

# APPENDIX 9
# SELECTING IDEAS

On the X axis  write down: customers needs/ expectations, and on Y: other the business value. Put ideas on the chart. There is no scale here. Ideas need to be located relative to each other.

Analyze what help to reach business goals at the same time as deliver value to customers. Think which of the ideas that have the largest circular potential and choose them for further development. You do not need to decide on one idea. Think about how you can combine them to create one coherent experience.




# APPENDIX 10 CIRCULAR ECONOMY - EXAMPLES

**Redefine: Tourist destination challenge redefined collectively**

**Association for Car Free Tourism Destinations in Switzerland (GAST)** has been formed by entrepreneurs and inhabitants from nine Swiss villages. This association's goal is to position car free tourism as a high quality product. A ban on vehicles with internal combustion engines, as well as a general speed limit of 15 – 20 km/hour for electro-buses, electro-cars and electro-taxis, helps to ensure a relaxed atmosphere and preserve the natural surroundings. As a consequences this destinations are considered as unique because of the tranquillity, clean air and extended space for pedestrians and nature.

**Huerta Cinco Lunas** is a small 2.5 hectare farm in Andalusia, Spain certified as organic by Agrocolor (AGR-02/1033) that provides bed and breakfast accommodation in three rooms within a traditional Andalusian farmhouse ('finca'), renovated using local materials in the traditional style. From the organic garden, the owners produce a range of produce, including eggs laid by hens fed with organic waste from the kitchen. Crops are fertilized using animal manure from a neighbouring organic farm compost from the kitchen. Weeds are controlled through manual weeding. Breakfast provided to guests is comprised of approximately 80 % organic ingredients, many of which are produced onsite: marmalades and jams, eggs, fruits and vegetables. Purchased products include organic cereals, and non-organic bread, coffee, tea and milk. Including evening meals provided for guests on request, the overall share of locally sourced food in the offer is approximately 70 %.

**Otarian restaurant** chain offers a 100 % vegetarian menu, substantially reducing the environmental burden of food compared with average restaurants serving meat. Sourcing policy is based on the principle 'as close to home as sustainable' to reduce transport-related impacts, and air freight is avoided. Otarian cooperate with suppliers to reduce packaging, for example to avoid double packaging and difficult-to-recycle packaging such as bubble-wrap. Packaging is consolidated by using the same crates for different products, and by extensive (re)use of reusable crates and compostable packaging made from bagasse (a by-product of cane-sugar production).

**The 'Eat Jamaican'** campaign supported by SuperClubs was launched in November 2003 by several Jamaican associations and businesses to promote locally-produced goods to residents, visitors and exporters. SuperClubs is a global all-inclusive tour operator that engaged with the 'Eat Jamaica' campaign, coordinating local procurement and promotion of local food across its Jamaican hotels. In 2004, SuperClubs started working more intensively with Jamaican farmers to provide incentives and technical assistance programmes. The hotel also provided the Jamaican government with policy guidelines for initiatives that would benefit both the agricultural and tourism industries. Currently, SuperClubs purchases over USD 110 million worth of local produce annually. One challenge has been to ensure a continuous supply of high quality produce from local suppliers. SuperClubs resorts promote local produce as a unique tourist attraction, for example in 'Celebrating Jamaican Cuisine and Culture' weekend events that combine local culinary delights, music, arts and crafts.

# APPENDIX 11
# LIST OF SLIDES

Slide 1:  Presentation of the topic of the workshop
Slide 2: Trainers introduction
Slide 3: Participants introduction
Slide 4: Expectations
Slide 5: Plan of the workshop
Slide 6: Design thinking
Slide 7: Triggers of change
Slide 8: Design thinking as a connector
Slide 9: Fundamentals of design thinking approach # 1
Slide 10: Fundamentals of design thinking approach # 2
Slide 11: Fundamentals of design thinking approach # 3
Slide 12: Fundamentals of design thinking approach # 4
Slide 13: Fundamentals of design thinking approach # 5
Slide 14: Main stages of the process
Slide 15: Design thinking is not copy thinking
Slide 16: Design thinking value  #1
Slide 17: Design thinking value  #2
Slide  18: Product/service vs design
Slide 19: Design questions
Slide 20: Design challenges
Slide 21: COVER STORY
    Exercise 1 : COVER STORY
Slide 22: Stakeholders
Slide 23: Stakeholder map
Slide 24: STAKEHOLDERS MAP
    Exercise 2 : STAKEHOLDERS MAP
Slide 25: Customer perspective
Slide 26-27: Persona - 1
Slide 28: Persona - 2
Slide 29: Persona - quote
Slide 30: PERSONA
    Exercise 3 : PERSONA
Slide 31: Value Proposition
Slide 33: VALUE PROPOSITION
    Exercise 4 : VALUE PROPOSITION
Slide 34: Customer Journey
Slide 35: Natural paths
Slide 36: Experience and emotions
Slide 37: Touch-points
Slide 38: CUSTOMER JOURNEY
    Exercise 5 : CUSTOMER JOURNEY
Slide 39: How might we…?
Slide 40: Example
Slide 41: HOW MIGHT WE…?
    Exercise 6: HOW MIGHT WE…?
Slide 42: Summary - Day 1
Slide 43: Creativity.
Slide 44: Creativity - quote
Slide 45: Stages of ideation phase
Slide 46:Creativity as a part of organizational culture
Slide 47: Phases of creative process
Slide 48: CASE #1
Slide 49: CASE #2
Slide 50: CASE #3
Slide 51: ANALOGY
    Exercise 7 : ANALOGY
Slide 52: CREATIVE MATRIX
    Exercise 8: CREATIVE MATRIX
Slide 53: SELECTING IDEAS
    Exercise 9 : SELECTING IDEAS
Slide 54: Prototyping
Slide 55: Prototyping - definition
Slide 56: Why do we prototype?
Slide 57: Prototyping principles
Slide 58: Examples of prototyping methods
Slide 59: Service origami
Slide 60: Paper prototype
Slide 61: Storyboard
Slide 62: Roleplaying
Slide 63: Movies
Slide 64: Storyboard
    Exercise 10 : STORYBOARD
Slide 65: Testing
    Exercise 11 : TESTING
Slide 66: Thank you

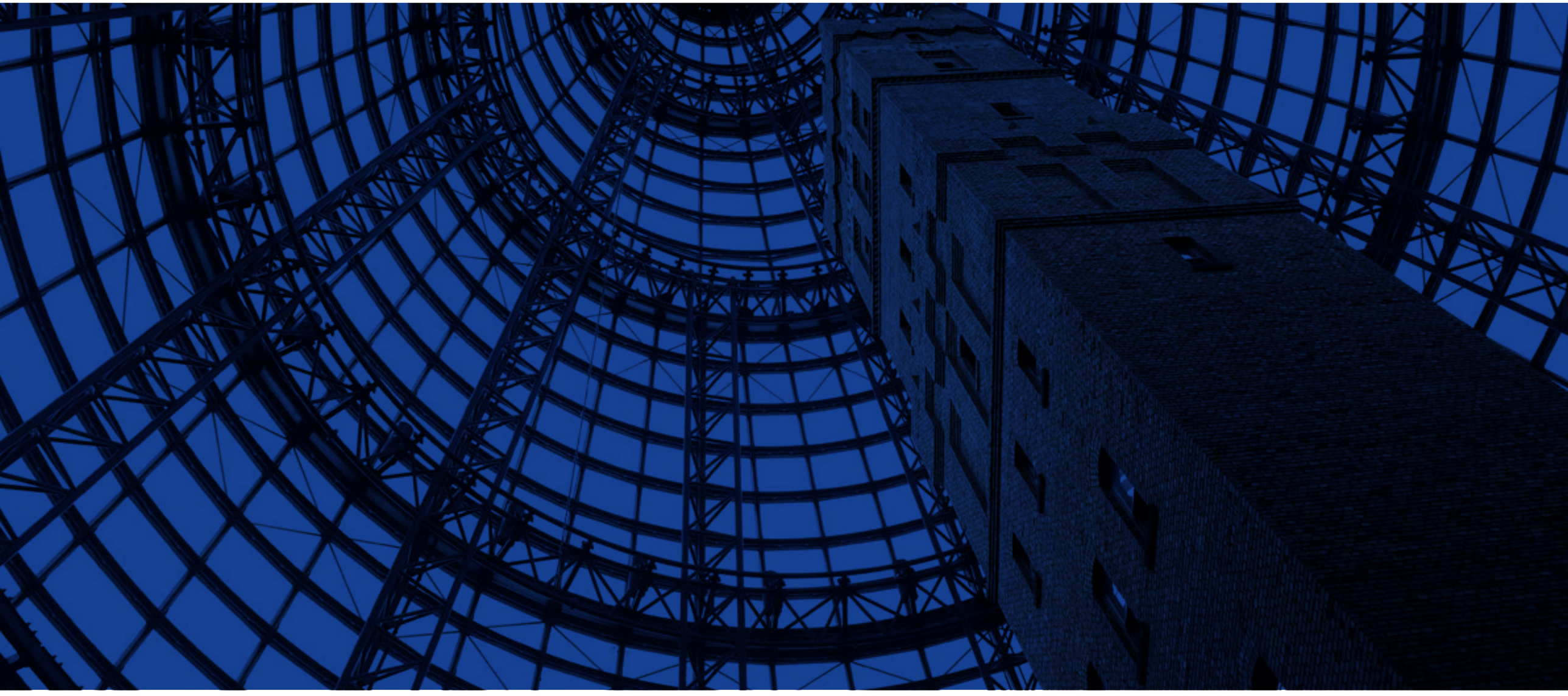
Guide for Trainers

# Marketing

MODULE WORKSHOP

LEAD PARTNER

PARTNERS



CIRTOINNO

Interreg South Baltic

European Regional Development Fund

# INTRODUCTION AND OBJECTIVES

**With circular products and services in place as a result of other modules of this training, energy, business model innovation and design thinking, now it's time to get some information on how tourism SMEs can proceed with marketing those circular products and services. The aim here is to help them learn how to apply the PDCA method from marketing perspective.**

**Goals:**

1. To learn how to apply PDCA method from marketing perspective, each company should have done its PDCA in previous modules of energy, business model innovation, and design thinking. Having done that, the company has chosen one or few products/services to make them circular. In marketing module, companies apply 7Ps of marketing mix on PDCA method.
2. Application of 7Ps of marketing mix on PDCA method clarifies how companies should observe, plan, do, check, and act for their promotion, process, people, place, and price.
3. Learning and comparing Hilton practices with their case company and trying to find what is relevant for their business unit.
4. tables You will learn how to apply principles of PDCA on marketing activities of your company
5. If the SMEs already have marketing in place then they assess the plan. They assess their plan to check if they need to change their marketing activities to work on their products/services. Also, how to change those existing marketing services.

**Note 1:** Please make sure that the attendees know that the process in marketing is different from process in other modules. In marketing, process is about marketing a circular-based product or service developed in previous modules of this project.

**Note 2:** The pre-requisite here is that you have chosen one or few products/services to make them circular in the other modules of this training for instance Energy, Business model innovation or Design thinking. In marketing module, you will apply 7Ps of marketing mix on PDCA method.

**Note 3:** As stated in purpose, marketing module's task is to market a circular-based product and service. All products or services of a company might not be circular and they can be marketed using traditional marketing ways.

**Guide:** slides, examples, and case

**Target group description:** Tourism SMEs (representing blue – coastal tourism, as well as green economy sector – eco/sustainable tourism companies.

# SUGGESTED AGENDA

**The approx. time for the module (hours) and suggested agenda**

| Time | Topics |
|---|---|
| 9.00 – 10:30 | Introduction to the marketing module<br>1st Marketing session |
| 10:30 – 10:45 | Coffee break |
| 10:45 – 13:00 | 2nd marketing session<br>Case study: Be the change you wish to see in the business |
| 13:00 - 13:40 | Lunch break |
| 13:40 – 15:00 | Case study: Be the change you wish to see in the business (cont'd)<br>Wrap up |

# GUIDE OF SLIDES

Dear trainer,
Please note that a change towards circular economy demands a rigorous PDCA implementation in all phases including marketing. Hence, the guide presented for you contains more than 90 slides to go through all the details of PDCA and 7Ps of marketing as far as the authors had knowledge and access to. It might seem difficult to teach and hard for the participants to listen and follow. Examples, and case study are added to deal with this issue and make education more interesting. As you will see, 7Ps of marketing are simplified and it is reduced to 5Ps which makes it quicker for you to educate the participants.
However, if you know or you feel that there will not be enough time to go through all the slides, then we recommend that you explain introductory slides until you reach the 7Ps and there you give short description of each of those Ps and then a through explanation of promotion strategies. Your explanation needs to include practical issues showing different examples and spend time with participants to do assignment. Promotion is neither more important than other strategies nor strategies overlap. The reason to choose promotion strategy is that sometimes it is what companies want quick. Also, the might have identified product, and people, and processes in previous stages.
Please be advised that it is just a suggestion considering the situation you might end up. Our recommendation is to go through all the slides as it is prepared.

## Slide 1

Trainer introduction


## Slide 2

Suggestion for agenda. It is developed based on one of the workshops in Lithuania. Due to time limit and the issue of travel distances, the workshop started from 09:00. Marketing session is comprehensive and it is divided to two parts. It was asked to have short coffee breaks. Otherwise it is recommended to have long coffee breaks that participants can network. Afternoon session is dedicated to case study and participants work with one or more cases in group. Case should be their own company and if they are interested to work with all their companies then it should also be possible to. It is recommended that few authorized persons participate from each company to make operational decisions. The plans to change toward a circular business models will be ready and one or few can be chosen to present their plans for the class. Plans can be drawn on A1 pages to show to other groups.


## Slide 3

Trainer opens up for everyone to introduce themselves. There is great focus on collaboration and it is good to melt the ice. Suggestion is to ask respondents to write their names and put it in front.
Then, PDCA should be explained (see section introduction to PDCA). Next, trainer should emphasize on the importance of case study and doing own case study (see descriptions for slide 2).
It is important that the trainer ask participants expectations to have an understanding of what they expect. Training will give better results if trainer access the participant information before the training session to know participants and prepare materials accordingly.
Marketing module is the last module. It is chosen to be the last so that attendees have gone through business model innovation, design thinking and energy modules in advance.
Then, when they attend at marketing session they know what they want to market and sell.
Importance of networking (see description in slide 2).
7Ps of marketing mix (see marketing keywords 7Ps of marketing mix) Case study is Hilton and examples are mainly chosen from Hilton.
Footnote: Your case: trainer should briefly explain case study is important, because it is a practical way of working with learning materials. It also helps companies to continue with their case when they leave the training. It is good that they work in groups when they are attending workshop so that they can help each other. In the end, we might publish good cases as examples of circular economy which helps marketing of the companies.
It is good that guests also have A1 papers and markers to write their plan on it.


## Slide 4


Footnote: Recalling PDCA: Unless trainers repeat PDCA, guests will forget the PDCA and since they are supposed to work with their own cases so we focus on PDCA steps and show them the tables of observing and planning and ask them to apply it to their cases. One idea would be to print the empty tables and make it available for each group. (For empty tables see the section PDCA tables)
Looking back at your case: reminding them 1st marketing lecture which was about PDCA and ask them to implement.

## Slide 5


Footnote: It is good to mention that, in fact marketing is circular in nature. Some companies do it linear and they just sell, but others should listen to the voice of customers and work back with the feedback from customers.

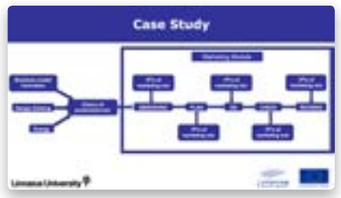
## Slide 6


Discussing detailed plan in the allocated time

## Slide 7


Footnote: We need to give feedback, they should explain their plans and they should say how they are going to apply circular economy in their business. They need to know what the next stage in our project is, how they can reach us, how they get feedback on their plans. Where they can find more info on project

## Slide 8




the structure of education and also case study is as depicted. The optimal way is that participant should have attended the design thinking, business model innovation, and energy modules prior to marketing session. Then, in marketing session, PDCA approach will be applied on 7ps of marketing to teach circular economy. Each company should be chosen by company representative to be analyzed as a case using PDCA and 7Ps.

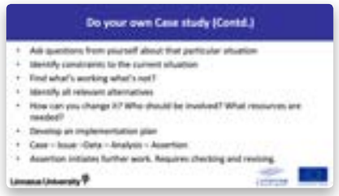
## Slide 9

this slide explains what case study is and how should participants think of their companies as a case.
Footnote: A detailed intensive study of a unit, such as a corporation or a corporate division, that stresses factors contributing to its success or failure.

A detailed analysis of a person or group, especially as a model of medical, psychiatric, psychological, or social phenomena.


## Slide 10

Footnote: These are steps needed in any case study. These bullets explain how they should think for a case study. Since this case should result in implementation of the plan then the flow of case—issue –data—analysis—assertion is added



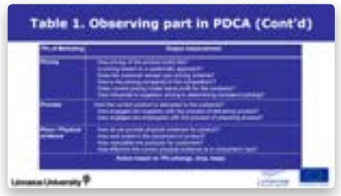

## Slide 11

(to see detailed description refer to slide 3, 4). Footnote: Continuous improvement means that this PDCA is a cyclical process that needs to be run for a determined period of time and it needs to be assessed. After assessment and choosing actions then the cycle should start again.


## Slide 12

This slide begins with observing part of PDCA plan.
Footnote: Mapping is very important since SMEs might not have interest or resources to change all the processes to circular. So, mapping is a help to choose which one.


## Slide 13, 14

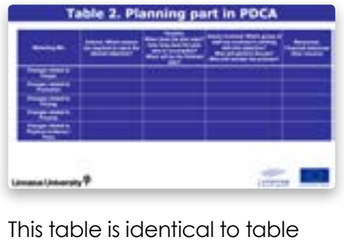




This table is identical to table in PDCA tables. The outcome of filling this table is an action to keep, change or drop a process/product/service. If the outcome is keep then assessment has shown that something is working and it does not need to be changed. If the assessment shows change then it needs to be changed and circular economy becomes meaningful. Drop is a business decision that should be taken when something is not worth to keep and it does not produce enough value to decide to change it.

## Slide 15


This slide shows the planning part of PDCA.

## Slide 16

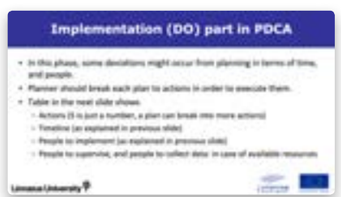



This table is identical to table in PDCA tables.

## Slide 17


This slide shows the implementation part of PDCA. Timeline and people are underlined to show the importance. Timeline and people repeat in planning and implementation. The reason for that is that it should be planned first. But, in the implementation part people and timeline can be different. In simple, actions and plans might be different.

## Slide 18




This slide shows the implementation part of PDCA with more details regarding the table that comes.

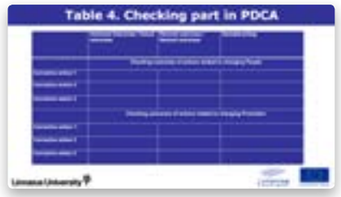
## Slide 19, 20, 21

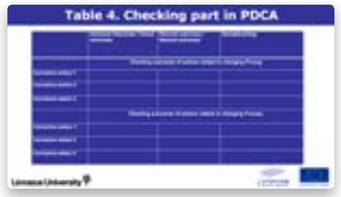

Implementation plan is broken on three slides to make the importance of having enough actions to reach each goal highlighted.

## Slide 22

This slide shows the checking part. Planned and achieved outcomes are underlined to show that they are not necessarily the same. Also, corrective actions are underlined. These actions are necessary to move achieved outcomes towards planned outcomes.


## Slide 23, 24, 25

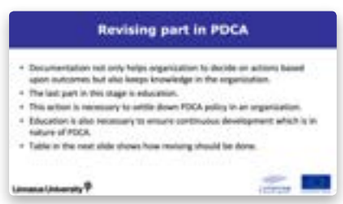





Checking part is broken to three slides to give enough space for checking part. Checking is required to find the gap. Due to the need to for space checking and revising has been shown in different tables.

## Slide 26, 27

The important steps in revising are decision about action, documentation, and education.




## Slide 28, 29, 30


Decision can be continuing, drop, redo which sounds very similar to the early decision made in observing part. Education should be given upon successful implementation and documentation of an action.

## Slide 31


The seven P's of marketing mix is explained. For more details, please see the section marketing keywords 7Ps of marketing mix.

## Slide 32


This slide asks questions from guests and investigate if they know about their product that they want it circular.

Footnote: This slide throw questions at guests and investigate if they know about their product that they want it circular. This slide also introduces SWOT analysis. SWOT is a strategy tool helping companies adjusting their processes based on their strength, weakness, opportunity and threats. For instance, a company can be good in fulfilling orders, another one in customer relation, another one in supplier relationship, and even an innovative company which comes with new products or services. So, SWOT is a strategic tool to decide core processes.

## Slide 33


Footnote: Mindset for the product has to change from thinking about a soup or a towel. These are products but starting from these products usually result in changing supplier, changing process of supply, and changing customer thoughts which in the end result in a bigger change. So that is one way of looking at product which normally does not end in circular economy system.
Another way is to think of a bigger product. For instance, think of Marriot hotel Sopot (Poland) which has several facilities such as fitness room, spa, bar, restaurant, … and accessibilities to this product is through Gdansk airport, train, boat and taxi.

Or a smaller product could be the spa in Marriot Sopot which has several facilities such as swimming pool, steamed sauna, dry sauna, Jacuzzi, motion pool. Accessibility is through booking on the room, booking for massage, and spa kit in the rooms. (For more description see the slide footnote)

Definitions:
Footnote: A tourism product is „the set of assets and services that are organized around one or more attractions in order to meet the needs of visitors".

Key ingredients of a tourism product consist of:

- An attraction: "raw materials" of the tourism product which can consists of any resources, places and events, which attract visitors and motivate their action.
- Facilities and services: Services and infrastructure which make the tourism activity possible
- Accessibility: Services that facilitate visitors' ¨ access to the tourist destinations, such as transportation and communication.

Circular tourism product development is designed to increase the income in the sector by focusing on long-term sustainable development and considering the needs and interests of all stakeholders in the tourism system such as tourists, the local community, government, entrepreneurs and other stakeholders.

Tourism product development aims at long-term sustainable development by the execution of a number of strategies. These strategies bring into focus a generic idea to increase competitiveness, build an inclusive industry by promoting closer integration of people and develop and maintain the environment. Sustainable tourism products are "understood broadly as meaning those that use resources in an environmentally responsible, socially fair and economically viable way, so that users of the product can meet their current needs without compromising future generations from being able to use the same resources. Measuring sustainability is a complex issue and the criteria vary according to the product type and local conditions. Deciding what is ultimately sustainable for a particular community is a balance between local circumstances and expectations and best practice in technology and environmental management." (UNEP, 2005)

## Slide 34


Footnote: Hinting guests about the importance of considering lifecycle of a tourism attraction before starting to change it. Product life cycle is a tool that helps to understand in which maturity stage a product is. If the product is declining then it definitely needs to change to have more selling opportunities. The lifecycle of a product consists of the different evolutionary phases of a product.

The four main life cycle stages of a product are:

1. market introduction stage
2. growth stage
3. maturity stage
4. saturation and decline stage

The challenge for every business is to avoid the decline stage.

## Slide 35


Footnote: The goal is to make guests aware of about the importance of working with their customers and even competitors to develop better products. Because having voice of customers will improve the product based on customer needs. Examples in below are Lightstay and travel with purpose which Hilton created together with customers. So, customers' input is included. Meeting with purpose which is a B2B product has been developed in collaboration with even holders so it is an example of co-creation of co-producers.

S-D logic as a departure from the traditional, foundational, despite goods-dominant (G-D) logic where the main focus was the exchange of goods Service-Dominant (S-D) logic is a new type of marketing paradigm where specialized skills and knowledge are the focus of economic exchange and one of the fundamental foundations upon which society is built (Vargo & Lusch, 2006).

S-D logic implies that service is the foundational base for all exchange processes where goods represent only a special case of service provision, a small subset of it, and the main function of goods is to enable service (Vargo & Lusch, 2006).

S-D Logic is "a logic that is philosophically grounded in a commitment to collaborative processes with customers, partners and employees; ...a logic or perspective that recognizes the firm and its exchange partners who are engaged in the co-creation of value through reciprocal service provision. It is about understanding, internalizing, and acting on this logic better rather than the competition" (Lusch et al., 2007: 5).

## Slide 36

Footnote: The goal is to explain process of creating a service with different stakeholders. It is little bit different from the situation which only one producer creates service. Here, is great focus on timing of event. Before it starts, during the event and after even finishes

Also, information sources, process of information sharing is important. There has to be policies which is formal rules.

Examples:
- Pre-delivery: Platforms for online reservations, such as Booking, Airbnb, Tripadvisor, etc
- Service delivery: Applications for that permit SMEs to keep in touch with travelers during the journey
- Post-delivery: Social networks, sites or platforms where users express reviews and evaluations on the service, such as Instagram, Facebook, Tripadvisor, etc.
- Operand: Tangible materials that tourism SMEs intentionally deliver to users
- Operant: Information, know-how, knowledge, experience, feedback and skills that hosts and visitors share after, during and before the visit.
- Formal Rules: Such as check-in and check-out schedules or breakfast schedule or general policies
- Informal and social rules: social norms, opinions, views and value propositions


## Slide 37

Footnote: Goal is to raise awareness that people are bigger than only focusing on customers. Also, people are part of stakeholders and stakeholders include all the process and things and even plants that are connected to tourism product.
- Economic stakeholders (tourists, visitors, other actors in the supply chain such as tourism suppliers, tourism intermediaries, transportation carriers, etc.)
- Other private businesses (restaurants, shopping mall, etc.);
- Public business (museums or municipalities organizing cultural events);
- Support services (telecommunications, payment services, etc.);
- Regulatory bodies (tourism or local administration)
- NGOs


## Slide 38

The importance of employees, their education, awareness, well-being and etc. in the success of circular economy plans should be highlighted.


## Slide 39


This slide uses examples shows that Hilton cares about its employees by putting up Oreo chocolate, promoting diversity, preparing educational courses, and giving industry benefits, and providing travel for families.

## Slide 40


Promotion is the process designed to inform potential customers (visitors) about the tourism product and service offered, sharing with them its unique values and most attractive and innovative attributes. It includes communication activities, such as advertising.
Footnote: Ask the participants to name the key ideas relating to the quality of their business/service (their unique selling points or competitive advantage) that they would like their customers to remember – and to spread to other potential clients.
Ask participants to list the promotion channels opportunities they can identify at local/rural, national and international level both online and offline. Ask them to design an "action plan" for each channel identified: a) channel; b) what they will do (e.g. call, send an email, start a social media campaign); c) when they will do it; d) what they expect to achieve (results).

## Slide 41


One should not mix marketing mix with promotional mix. A company's total promotion mix—also called its marketing communications mix—consists of the specific blend of advertising, public relations, personal selling, sales promotion, and direct-marketing tools that the company uses to communicate customer value and build customer relationships persuasively.

Footnote:
- Advertising: Any paid form of nonpersonal presentation and promotion of ideas, goods, or services by an identified sponsor
- Sales promotion: Short-term incentives to encourage the purchase or sale of a product or service
- Personal selling: Personal presentation by the firm's sales force for the purpose of making sales and building customer relationships
- Public relations: Building good relations with the company's stakeholders to gain favorable publicity, building up a good corporate image
- Direct and digital marketing: Engaging directly with stakeholders and specially customers to both obtain an immediate response and cultivate lasting customer relationships

## Slide 42

Goal of this slide is to show A-Z of advertising. It discusses about message, people, etc.

Footnote:

- Who? Choose the population or target audience.
- What? What are the goals of the campaign? Define clear, specific and measurable objectives.
- How? What is the key message? What is a key differentiating factor of the product/service?
- When? What is the right time? Define the period in which the impact of the campaign will be most effective, and its duration.
- Where? Which media and to what extent?
- How much? What are the costs of the activity?
- Evaluation. What results have been obtained with respect to the set objectives? Evaluate in quantitative terms (sales), quality (reputation and image) and purchase intentions.


## Slide 43

To communicate effectively, marketers need to understand how communication works. Hence mechanism of communication is illustrated in this figure.

Footnote: Two of these elements are the major parties in a communication—the sender and the receiver. Another two are the major communication tools—the message and the media. Four more are major communication functions—encoding, decoding, response, and feedback. The last element is noise in the system

- Sender: The party sending the message to another party
- Encoding: The process of putting thought into symbolic form
- Message: The set of symbols that the sender transmits
- Media: The communication channels through which the message moves from the sender to the receiver
- Decoding: The process by which the receiver assigns meaning to the symbols encoded by the sender
- Receiver: The party receiving the message sent by another party
- Response: The reactions of the receiver after being exposed to the message
- Feedback: The part of the receiver's response communicated back to the sender
- Noise: The unplanned static or distortion during the communication process, which results in the receiver getting a different message than the one the sender sent


## Slide 44

Footnote: Advertising is a big word and goal of this slide is to help guests understand that they should have objectives. For instance, Hilton connected room brings a whole experience to the guests and they advertise themselves as a digitalized and modern hotel. This system connects to smartphones and guests can control the room such as photo they want to see, TV channels, music, room temperature and all in all they can feel like home.


## Slide 45


Goal of this slide is to define what sales promotion is about and then showing ad of a deal that is expiring in 48 hours. Hilton has put it to create incentives and tickle prospects to choose the deal.

Footnote: Sales promotion involves a range of tactical marketing techniques to add value to a product or service in order to achieve specific sales or marketing objectives

Merchandising is any practice which contributes to the sale of products to a retail consumer.

## Slide 46


The aim here is to create awareness with giving example of what Hilton is doing to promote their conference environments for B2B sector. Meet with purpose brings up new and sustainable facilities for event holders to set up their meetings.

Footnote: From Hilton: As the leader and innovator in global corporate responsibility, Hilton Worldwide continues to develop programs like Meet with Purpose, which gives companies the opportunity to book socially and environmentally responsible meetings. The program aims to reduce waste, improve efficiencies and incorporate well-being through three core pillars: mindful meeting, mindful eating and mindful being. Mindful meeting options and practices reduce the use of resources and waste production in the meeting and conference setting, for example by serving beverages in pitchers and glassware, using local and seasonal ingredients and energy-efficient light bulbs. The award-winning program also offers the possibility to calculate the Carbon Footprint of the meeting with the LightStay Meeting Calculator. To fully support the client's sustainability strategy with „green meetings", Hilton Hotels Austria partnered with the EMAS-certified AV provider AV Bernhard and has the Austrian Eco-label as well as the TripAdvisor Green Leader gold or platinum certificates.

## Slide 47


Trainer should inform guests about the importance of a one-to-one selling opportunity which is very effective but costly.
Word of mouth is the other takeaway of this slide. It is a whole world for itself. As the slide show, Hilton has many people at front desk and also many sales agents to be able to talk personally.
Footnote: Word of mouth is one of the key factors influencing the final choice of destination
The tourist should be able to tailor all aspect of their experience. Hilton does that through technology, hotel services, bedroom, journey, pricing as well as communications.

They believe that:

- More attention can be given to an individual
- Immediate feedback
- More chances of customer being persuaded
- More interactive
- People sometimes prefer the human touch more than electronic based

## Slide 48

Footnote: The goal is to create awareness around public relation which is a type of promotion towards bigger parts of society. For instance, in the middle there is a picture showing that Hilton is giving to the society by donating to the elderly houses and in their Instagram, they are asking about it from people how do they contribute to society. So, Hilton is up to engage people in the discussion and indirectly promote itself.


## Slide 49

Nudging guests about importance of digitalization in a digital world. Old fashioned businesses will have hard time to compete


## Slide 50

This slide names few advantageous of digital marketing and persuades participants towards digital marketing.


## Slide 51

This slide is again mentioning benefits and naming that social media is one of the means of digitalization and it still works well. Every company should have presence on social media and spend hours to answer questions, complaints etc. One opening question here can be which one you in this room has its business on social medias too? Not the website only.


## Slide 52

Showing some crazy stats. What one can see is that a great deal of internet users and unique mobile users are on social media. So social media is very important no matter on WWW or on mobile applications.


## Slide 53

All numbers are increasing and the signs are plus. Especially mobile users. So, direction of future is clear now.

## Slide 54


This slide shows the insight can be gained from social media marketing. The rate of search is increasing on Wednesday and Friday. Wednesday is like little Friday and people decide on doing fun stuffs. Then Friday is weekend and people plan to stay over the weekend or go to restaurant or spa.

## Slide 55


This slide has different goals. It shows the importance of word of mouth instead of working with each and every customer. Footnote: Viral marketing is use of media to communicate marketing message. Buzz marketing: creating buzz (with ad, film, poster, message, newspaper article) and letting the bees do the marketing communication.

## Slide 56


Footnote: Word of mouth marketing is a useful strategy and here are some examples of it. Earth time, to dim lights, exchanging bonus of a guest toward a generous upgrade, cleaning the beach, talking with a customer who is going to stay at Hilton in London and welcome them. These examples show the importance of word of mouth on social media.

## Slide 57


Footnote: SimplyMeasured shows statistics the difference of contents provided by Hilton and users. Hilton mainly put photos and videos but users mainly engage by photos.

## Slide 58

This slide encourages guests to use Google AdWords. It gives an overview of the advantageous of Google AdWords. There are also AdWords tips in the slide footnote.


## Slide 59

Links are shared with users showing how Google AdWords in hotel industry.

Footnote:
https://blog.wishpond.com/post/77711920097/why-does-my-small--business-need- google-adwords
https://www.business.com/articles/6-reasons-why-your-business--should-be-using-google- adwords/
http://mstravelmarketing.com/blog/why-should-you-use-google--adwords-in-the-travel- industry/


## Slide 60

It emphasize on the importance of contents. Contents are important in Adwords.


## Slide 61

Goal is to define internal marketing and focusing on importance of staff in success of marketing plans. If staffs are with then it is much easier to convince customers.

Footnote: Circularity in tourism sector must be embraced by all employees. It must be part of organizational culture and philosophy and the marketing function or circular services and products should be carried out by all employees

Managers must make sure that employees know their circular products and services and believe they have a good value.


## Slide 62


The aim here is to define product placement which in the end helps promoting the product.

Footnote: Traditional placement: Product placement is usually done through marketing of a brand in film or TV programs. However, it is possible to market a brand in sport events, books, and songs.

## Slide 63


The target is to help participants to understand and differentiate brand placement. Own brand placement and placement of other brands.
Footnote: If brand demographic matches the guests then placement of a brand is crucial to attract guests.
Other brands: Such as using cars that hotels offer to their guests to rent while they are staying. Or shampoos, lotions, soaps and other cosmetic products that a SPA uses for treatment.
Own brand: Placement of own brand can be done through the staff or through physical or virtual (online) placement. Too obvious brand placement often results in negative reactions.

Therefore, it is good that placement of a product or service that is related to the circular economy practices of a firm, indirectly nudge customers enthusiasm to read, ask, and begin to understand the brand.
From Hilton: Placement of Lightsaty has come to food menu of Hilton and lightning as well. For instance, preparing cold menu items and encouraging guests to turn off lights in "Worldwide turn out the lights for Earth hour" in 2011. In terms of classical placement which is in media, Hilton market Lightsaty in form of financing Sundance Film festivals. Sundance is a film festival for documentary films in area of sustainability.

## Slide 64


Goal is to show how Hilton is doing product placement in their "meeting with purpose" concept. (For more description see the slide footnote).

Footnote: There are three main fields of puppies and ice cream, yoga and yoghurt, and mindful eating tips. The first two are directed for B2B customers and the third is tips available on web. The first is pressure and stress relief while helping pets in the animal shelters and the second which is yoga and yoghurt is about physical activity to relief pressure and stress in the end of the day.

## Slide 65, 66, 67








Links to watch product placement

## Slide 68, 69

Purpose is to present one of the simple yet comprehensive models of pricing. In this model marketers' price their service in consideration of competitors, costs, and customers willingness to pay. Putting low price sacrifice profit and putting high price limits number of customers.
Footnote: As stated in observing and planning, the aim is neither to charge an expensive price that no customer buys nor a cheap product that company loses profit. In doing this, company should consider costs, competitors, and customers. This model is called 3Cs model as stated in figure below. It is cost of service (revenue cost) that sets the bottom or low price, and it is customer perception that sets roof of the price. Company should consider internal and external factors as well as model here to decide pricing. In a circular economy, the aim should not only be to consider the model but also circular economy principles to reduce the costs in long term too. There are general pricing approaches that are related to the 3C model which are explained below.



## Slide 70

This slide is based on previous one and it presents pricing approaches.

Footnote: Cost base d pricing work with costs of revenue (cost of revenue is a similar to term to cost of goods sold). Cost of goods sold is a cost incurred with selling goods mainly driven of material costs, and human resource costs. Cost of revenue is similar to it but in-service sector.

Value based pricing is an approach built on measuring how willing customers are to pay for a service.
Competition based pricing is another pricing approach that marketer look at what other competitors are putting for the price. Target profit pricing is when the marketer determines the costs and then adds some markup on it to determine how much profit they want.


## Slide 71


The breakeven formula is explained. Trainer can use the board to show the formula and even drawing a diagram on the board to show breakeven principle.

Footnote:
Profit = revenue –costs
Profit = revenue – fixed costs + variable costs
Profit = No of units sold * selling price – fixed costs + variable costs * no. Of items In breake-ven profit is zero

0 = No of units sold (selling price + variable costs) – fixed costs No of units sold is break-even point (BEP)
BEP (selling price + variable costs) = fixed costs BEP = fixed costs / (selling price + variable costs
BEP in value is multiplication of how many items one sells in BEP and selling price So BEP in value ($$$) = BEP (in numbers) * selling price

## Slide 72


This slide shows connection of circular economy thoughts and cost saving principles.

Footnote: Cost saving as one can see work with the second term in this equation: profit = revenue–costs. It reduces costs and reduces the BEP in number and value. Circular economy approach can result in reduction of fixed costs and variable costs associated with service. Reduction of fixed costs make the equation smaller and reaching breakeven point faster. Also, reduction in variable costs per item make the denominator of the equation bigger and reduces the breakeven point. Reduction of breakeven is the goal of each company which means that company reach zero point sooner.

**What about reducing selling price and giving offer?**
Answer: Companies need to be careful in working with selling price. Sometimes, hotels place cheaper price per available room to increase hotel occupancy. Reduction of the selling price increase the breakeven point. It means that number of rooms that need to be occupied increase, so if hotel fails in populating the rooms then it will be a loss. In summary, cutting costs are often a better choice than giving discounts.

## Slide 73

The goal is to explain the value-based pricing. This approach is very much dependent to customers and their willingness to pay. Otherwise it fails. So, two cases in the slide can be presented like a question to the respondents.

Footnote:
**Finding out how much customers are willing to pay:**
it is another pricing model which is very much dependent to other marketing strategies. It is a result of doing market research to find out the value of the product in customers mind and then setting a price on it. For instance, espresso in restaurant is served at cheaper price than hotel lobby or in a prestigious restaurant. Business owners need to find out how much customers are willing to pay for a service or product.

- Circular economy features result in less costs
- Circular economy features result in extra costs

Unless adding circular economy results in less cost, marketers should trade off between adding circular economy features and excluding them. Then, they should ask customers if and how much customers are willing to pay for circular economy feature to figure out if adding the service will go over the cost or not. If adding circular economy feature results in cost saving then marketers should market it very well in terms of cost saved for customer.


## Slide 74

This slide hints that revenue management is the other purpose of pricing. Hence, focus should not merely be on cost saving. Yield is another way of discussing about profit. Yield is very broad and the presenter does not have to go further down in it.


## Slide 75

This slide presents metrics in revenue management. Guest should know these metrics. They are widely used in hotel industry.

Footnote:
**Occupancy or utilization:**
Result of dividing number of room nights sold by the total number of room nights available at a hotel or hotel groups.

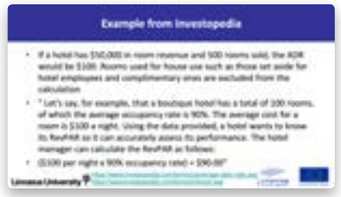
**Average daily rate (ADR) and Revenue per available room (RevPAR): €€€**
They are two tools in pricing for hotel rooms. ADR measures the average return on daily basis and includes several rooms in estimation. RevPAR estimates each room separately.

ADR. is the result of dividing revenue gained from hotel rooms by the total number of room- nights sold in a period of time? RevPAR is estimated from dividing hotel room revenue by room nights available to guests in a period of time. Continuation of growth in ADR resulted in growth of revenue per room (RevPAR) in Hilton chain


## Slide 76


One simple example shows how RevPAR can be used. In the bottom of slide is some figures showing success of Hilton Europe.

## Slide 77




One simple example taken from Investopedia shows the application of ADR and RevPAR.

## Slide 78


This slide gives headlines on what will be discussed in the process section of 7Ps.

## Slide 79


This slide defines channel, digitalization, and direct/indirect distribution.

Footnote: Channel is the way service/product is delivered to customers. There could be organizations involved in a channel. Channel in its basic form consists of a service provider and a customer.

Delivery of services can be done directly or through intermediaries. Digitalization has changed distribution systems and made it as a competitive advantage for corporations. Intermediaries are not necessarily bad. They can reduce number of contacts necessary for a business to do its job. Intermediaries can have local market know-how and help business to sell to more customers.

## Slide 80

This slide shows levels in the process. there is no level for the upper relationship and two levels for the below.

Footnote: Channel is the way service/product is delivered to customers. There could be organizations involved in a channel. Channel in its basic form consists of a service provider and a customer. For instance, a SPA and its customer. This channel can be a direct marketing channel if there is no intermediary in between of SPA and customer. Channel can be of level one if there is an intermediary between service provider and customer. For instance, there is a third party service provider for booking tables and they book table for restaurant guests. Then, there is a one intermediary between restaurant and customers.

Channel can become more complicated. For instance, there are local farmers to supply meat, salad, and wine to the distributors. Distributors supply hotels and restaurants in the area. Restaurants have distributors that supply bakeries to the restaurant. Then, the kitchen can be outsourced to a catering company to cook and serve customers. This distribution network is much more complicated and harder to control.

How many levels do you see in channel below? 2 levels between customer and supplier. So it is of level 2. between service provider and customer is level one.


## Slide 81

This slide shows two common channels in truism industry.

Footnote: How many levels?

- 1 level
- 2 levels

Who are tour operators: they can be wholesaler. They buy bulk of seats, room reservations from principles. They provide reservations for travel agents.

They design the experience. They can do/design air travel, lodging, meals, entertainment, ground transport, sightseeing tours, special entrance fees

Who are travel agents: they are mainly retailers. They do travel reservations. They provide travel info.


## Slide 82


This slide shows what supply means and how it looks like for a restaurant. It also gives an example.

Footnote: Putting together different distribution channels of a company together result in something called supply chain. Supply chain consists of suppliers and other actors of the chain and business processes among them. Applying principles of circular economy on supply chain demands participation of suppliers, distribution agents, the company and customers. Success of a circular economy-based system is very much dependent to cooperation of all the actors and specially suppliers and customers.

This supply chain becomes circular if we succeed to close it. It means that if it can work like a cycle, like an ecosystem. This means zero waste. This means using renewable energies in transport, in kitchen, in booking. This means a systematic thinking that goes beyond one process, one function, or one unit. This means no single unit or small group of units become circular unless all the elements become connected. In this picture suppliers need to become circular, distributors need too. Otherwise no circularity. Diversity ensures the resilience of system that it does not shake or turn apart because of changes in the system. This term comes from an ecosystem that can find itself again after external changes. Success of technological systems to diversify itself lies within users and employees of it. Training, and commitment to circularity principles diversify supply chain across different locations, people, processes.

## Slide 83


The aim is to show what Hilton is doing in terms of changing processes to a circular one. There are different examples given in the slide.

Footnote: From Hilton:

Mattress recycling program:

Hilton Worldwide has a mattress recycling program for Setra model and box springs. Almost 85% of previously landfilled mattresses are recycled as a result of this program.

http://www.greenhotelier.org/our-themes/waste/hilton-worldwide-announces-mattress- recycling-program/

Mattress donation program: Recycling mattress through mattress donation programs: https://www.tuck.com/mattress-disposal/

Responsible sourcing: Hilton works closely with our supply chain to ensure that their activities meet our expectations as set out in our Responsible Sourcing Policy. We encourage our owners, managers, developers and suppliers to maintain at least the same level of commitment. In 2015, we conducted a mapping exercise of our global supply chain across a range of economic, environmental and social risks, including human rights. In the same year, we established a Global Responsible Sourcing Advisory Council, with representatives from regional leads on procurement and corporate responsibility and launched the Responsible Sourcing Policy which we have begun communicating to our key suppliers. It started with analysis of categories of seafood, meat and protein, produce, and apparel and linens. Strategies developed after audit, and guides on global decisions on implementations.

Reduce energy consumption: We also partner with our strategic suppliers to embark on an aggressive campaign to reduce energy use through more efficient lighting. Property level audits identify the best combination of lighting that will reduce energy usage and cost. This program is required for all owned and managed properties in the United States.

Soap recycling program: We also partner with SoapCycling and Soap Aid and are engaged with Soap4Hope, a soap recycling program of SealedAir/Diversey (one of our strategic soap suppliers) to support more than 75 hotels in Asia Pacific, Africa and Latin America. Across our partnerships, Hilton continues to be the largest multi-brand hospitality company currently participating in soap recycling with over 1,600 hotels recycling soap and amenities around the world.

Animal Welfare: In 2015, we committed to switching to cage-free eggs by December 31, 2017 for Hilton Hotels & Resorts, Waldorf Astoria Hotels & Resorts, Conrad Hotels & Resorts, Canopy by Hilton and DoubleTree by Hilton hotels. Additionally, by December 31, 2018, all pork products for these properties must be purchased from suppliers that house breeding pigs in groups rather than in gestation crates. These changes are being initially implemented in 19 countries where these products are currently available and will be adopted in additional markets as supply comes online

Sustainable seafood programs: focusing on sustainability and traceability. Forbidding shark fin in menu, shrimp programs. Following our ban on shark fin across all properties globally in 2014, we began focusing on the sustainability and traceability of the seafood we source. Achieving Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) chain-of-custody certification. In 2016, we announced a comprehensive shrimp program with Sysco and their Portico line to improve the responsible sourcing of our farmed shrimp for North America. As one of our largest volume purchases, this work has great potential to positively impact the regions that we source from.

we collaborated with World Wildlife Fund (WWF) on our recently launched Sustainable Seafood Goals. By 2022, we will source at least 25 percent of total global seafood volume for owned, managed and leased properties from MSC certified fisheries and ASC certified farms.

In addition, we have partnered with Totally Green to offer our hotels the Orca organic food waste disposal system. This technology disposes food waste on site, converts organic waste into environmentally safe water within 24 hours and reduces the amount of wet waste that goes to landfills

Sustainable Forestry: Hilton expects its vendors and their suppliers of wood and paper products to maintain compliance with laws and regulations pertaining to their operations and the products they manufacture. Hilton will not purchase wood or paper products made with illegally harvested or traded wood.

Responsible meeting: it is another way of serving customers in a responsible way. Suppliers are also on board to hold business meetings in a more relaxing, and wellness-based set. Trainers, food suppliers, event holders are collaborating together to prepare a responsible event.

## Slide 84


Suppliers are very important part in processes and this slide shows supplier programs conducted by Hilton which in the end help to succeed with circular economy programs.
Footnote: From Hilton:

Supplier accreditation programs: To confirm the effective implementation and validity of LightStay, Hilton Worldwide commissioned KEMA-Registered Quality, Inc. - a Management Systems design company - to perform a series of third-party audits of LightStay

Supplier diversity programs: We engage, support and create business opportunities in our communities for our key stakeholders; suppliers, guests, community members and owners. Diversity is continually promoted within our marketplace through our supplier diversity program, multicultural marketing to diverse customer segments, partnerships with numerous diverse non- profit organizations, and development of property ownership opportunities for women and minorities. 1550 women owned minorities and veteran owned minorities. Even 41 locations have gone with Marine stewardship council. 25% of seafood menu are sourced from either MSC or aquaculture stewardship council.

Supplier audit: The policy confirms that Hilton reserves the right to conduct unannounced audits and inspections of facilities to ensure that our suppliers are taking reasonable efforts to operate in a manner consistent with the policy. Violations or non-compliance may lead to termination of the supplier relationship.

Supplier education: Leaders in key internal functions (e.g. procurement, human resources, development, design and construction) and our key suppliers have been educated with respect to risks that have been identified as high-risk sourcing arrangements in the industry (i.e. recruitment and employment agencies). In the UK, we request our suppliers that provide employment services to conduct an ethical audit with a third-party auditor and/or desktop reviews, and to implement any suggested action items. In 2016 we launched a working group to expand and align our approach to other countries of operations, primarily in the Middle East.

Supplier award programs: Inclusive Sourcing Our goal is to forge strong relationships with our wide range of vendors and suppliers that reflect the diversity of our global portfolio of hotels and guests. Through our award-winning Supplier Diversity Program in the United States, we have cultivated relationships with more than 1,550 women, minority and veteran-owned enterprises. We are currently evaluating ways to expand our program into other markets.

Local Sourcing: Hilton Team Members and suppliers also look for local sourcing opportunities and form relationships with area farmers to collect and distribute products to our hotels. We work with suppliers to develop unique training for farmers related to handling, safety guidelines and insurance requirements needed to supply our properties. To date, we have more than 40 hotels in 11 major cities in Europe, Latin America, the United States and Canada participating in our local sourcing and education programs.

Supplier reporting: GRI, and Ecovadis: G4-21. Hilton reports on water, supply chain (upon request) and climate action through the Carbon Disclosure Project (CDP), as well as the standard Ecovadis and Ecodesk for customers and suppliers

## Slide 85


This slide is for defining vertical marketing and gives hints on how vertical marketing should be in tourism industry. On the right, there are examples of vertical marketing channel systems.

Footnote: From Hilton:

Vertical marketing channel systems:
A traditional marketing system is a system that each actor buys from the actor before and tries to sell it to the next actor. In a vertical marketing system, several actors go together and work on selling a single service and they divide the benefit based on a percentage.

Better buying lab: A lab owned by Hilton. It is a way of changing customers behvaior toward the company desires. In 2016, we co-founded the Better Buying Lab led by the World Resource Institute to research and catalyze action that enables consumers to buy more sustainable foods. Leading companies in the food industry, behavioral economics and marketing are joining forces to try to shift diets to preserve the environment.

Clean the world: Hilton was the first major hospitality company to partner with Global Soap in 2011, which recently joined forces with Clean the World. We've been instrumental in providing operational expertise and expanding Global Soap's footprint. We continue to be the largest global hospitality company donating to the soap recycling efforts led by Clean the World P&G Tide: In collaboration with P&G and Tide Professional, we have developed several partnerships that offer laundering technologies and products, including P&G/Tide Professional and Ecolab Aquanomic Low-Temp Laundry Programs, that reduce water consumption by up to 40 percent and energy consumption between 50 and 75 percent. These programs improved washing processes and also resulted in a reduction in linen replacement Center for sustainable procurement and also WWF: In collaboration with Waste Management, we are partnering with the Center for Sustainable Procurement, to evaluate current waste and diversion practices and develop metrics to track, measure and report data

Serta, Simmons, and Global Sustainability Solutions: In collaboration with Serta, Simmons, and Global Sustainability Solutions, our hotels in the US are able to recycle their mattresses and box springs rather than sending them to a landfill. The components of the mattresses and box springs are repurposed into various products with approximately 95 percent of the components being repurposed into new products. Bed frames are also recycled through the mattress-recycling program.

WEConnect membership: Through our membership with WEConnect International, an organization that empowers women business owners to succeed in local and global markets, we connect hotels throughout Asia with opportunities to consider diverse suppliers in their purchasing decisions

International Youth Foundation (IYF): Hilton's signature partner in the youth development space is the International Youth Foundation (IYF). Through a holistic strategy, we have worked together to develop cutting edge preemployment and development programs and a research platform to identify obstacles that deter young people from entering into the hospitality industry. We work with IYF to conduct research that can help all industries identify the challenges that youth face in the countries where they operate and work to address those challenges.

Also, we created Passport to Success (PTS) for Hospitality, a soft skills training initiative, in partnership with The International Youth Foundation (IYF). In addition, internship programs in Brazil, Romania, and Mexico.

Girls2pioneer: In Singapore, we partner with UN Women and its Girls2Pioneers program, to provide opportunities and introduce youth to the hospitality industry. For example, we provide youth tours of our hotels and focus on the variety of careers within Hilton, in particular within Engineering and Finance functions.

Partnership with room to read: Since 2012, we have partnered with Room to Read, a global organization advocating for literacy and gender equality around the world, to directly support the education of youth – especially girls. As one of the organization's key partners, we have made a significant impact through direct support of Room to Read's programs and through creative Team Member engagement that helps Room to Read's community efforts thrive. To date, our partnership with Room to Read has equipped more than 70,000 young people in Asia with the resources they need to succeed. A year into our extended partnership with Room to Read, we made significant progress in creating opportunities for young people, particularly in India and Sri Lanka. The collaborative efforts between Room to Read and our teams have helped establish multiple educational institutions and literacy programs

Partnership with Global fund: We partnered with the Global fund for children to support grassroots anti-trafficking efforts reaching 1,500 children around the world. Also, In 2015, we partnered with the Metropolitan Police, London Borough of Hammersmith and Fulham, the Royal Borough of Kensington and Chelsea London, and Westminster City Council to launch the

Operation MakeSafe campaign. This effort focused on child trafficking awareness raising, and included in-person training for hotel teams across London. It also involved all UK heads of housekeeping and our UK labor agency partners.

International tourism partnership on labor sourcing: Hilton does not build hotels, nor are we involved in the sourcing of labor for construction of hotels or related facilities. However, we work towards increasing our hotel owners' awareness of the risks associated with the conditions of recruitment, work and accommodation for construction site workers. We are also working with the International Tourism Partnership to raise awareness, share best practice, and develop positive mitigation tools in this area.

Support local actors on refugee crisis: Our hotels have been proactively engaged in supporting individuals being affected by the refugee crisis. Over 20 hotels across Europe are working with local partners to support individuals who have fled war and hardship.

Establishment of vital voices: In order to support the global fight against sexual exploitation, we launched the Global Freedom Exchange programme in partnership with Vital Voices, an international network

Partner with US department of energy (DOE): With our company-wide ISO 50001 Energy Management certification, we continue to partner with the U.S. Department of Energy (DOE) to bring the DOE's Superior Energy Performance (SEP) certification and recognition program to the hotel industry. Three Hilton properties are now the first commercial buildings to receive DOE SEP certification. We also joined the DOE's Better Buildings SEP Accelerator initiative, making Hilton the first commercial company to join the partnership

Member of Hotel Carbon Measurement initiative: We are members of the Hotel Carbon Measurement Initiative. The International Tourism Partnership and the World Travel & Tourism Council (WTTC) formed this initiative to set an industry standard to calculate the carbon footprint of hotel stays and meetings. All of our 4,900 hotels are able to report to this standard.

Member of WTTC climate change task force: We are also members of the WTTC Climate Change Task Force. The task force is designed to identify industry priority action areas for the future and evaluate industry progress against climate change commitments that were made in 2009.

## Slide 86


Horizontal marketing is about companies in tourism industry networking with each other. And multichannel is a hybrid network consists of horizontal and vertical channel marketing.

Footnote: From Hilton:

Companies can network and offer interesting services at discounted price to customers. This way customers can have discounted services for at least two services. For instance, credit card companies can give deal for renting skis. So, capitals are shared, capabilities are also shared and marketing becomes more powerful. Better communication due to absence of layers between organizations. More flexibility, and better reporting. For example, Coca-Cola and nestle joint and made ready to drink coffee and tea available worldwide.

Hilton: We are a member of the Business for Social Responsibility (BSR) Procurement Leadership Group, a group of sustainability and procurement professionals across industries that explores innovative approaches to sustainable supply chains

WWF: In 2016, we continued our collaboration with World Wildlife Fund to support our environmental goals. We participate in the Corporate Renewable Energy Buyers Principles led by

WWF to advance renewable energy purchasing option. Also, water stewardship programs in accordance with World wildlife fund.

International tourism partnership (ITP): As members of the International Tourism Partnership (ITP), we collaborate with other leading international hotel companies on the ITP water working group, examining risks around water and ways we can standardize the measurement and communications of consumption in our industry.

Multichannel marketing systems:

Digitalization has brought possibility of marketing and sales of services via different channels. Different channel marketing means more sales for a company. For example, hotels use third party websites, travel agencies, their own website, and front desk to sell rooms.

Collaboration with eTemp: We collaborate with eTemp, a company that has developed a technology that reduces compressor cycle times in refrigeration units. All Hilton owned and managed properties in the United States are required to undergo an audit and install these laundering and refrigeration devices where they make sense.

Partnership with event holders and meeting planners: In select hotels across North America, we engage our guests in on-site community projects as part of meetings and events offerings. We have also hosted similar events with some of our largest clients and partnered with meeting planners to integrate a service

## Slide 87, 88



These slides give examples of Hilton works with diversity and inclusion of minorities in the business. These examples include horizontal and vertical networking.

## Slide 89


This slide shows extensive possibilities that Hilton gives to its members to use their bonus. This should remind the participants the idea of App Store by Apple which is a one-stop shop to fins, buy, and use applications.

## Slide 90


This slide contains links for those who are interested to know more on processes in Hilton.

## Slide 91


Thank you slide. Then, it should be opened for the participants to begin analyzing the case. Then, presenter or organizers collect answers of participants on case studies and begin analyzing with them.

# FINAL WORDS

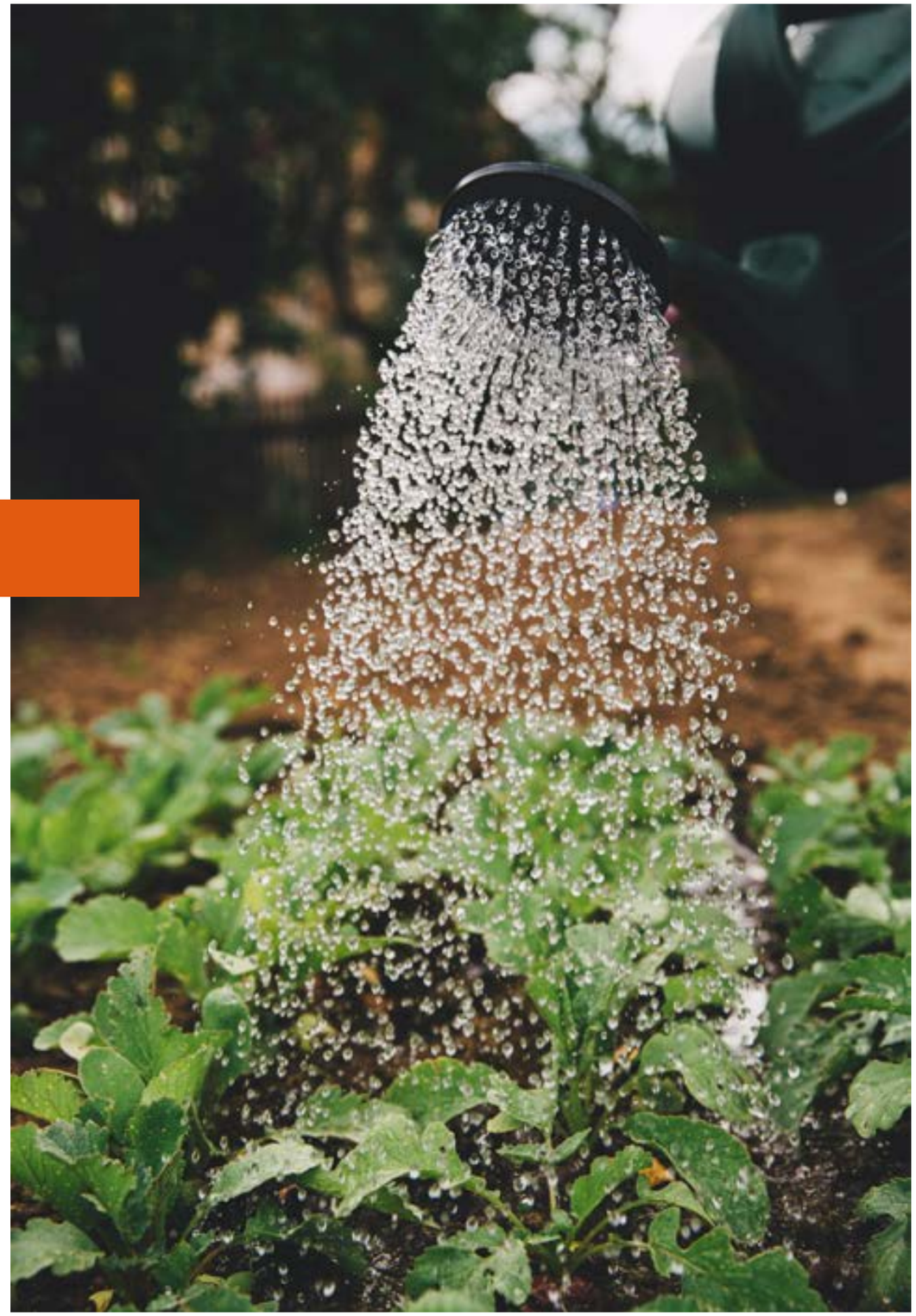
# ACKNOWLEDGMENTS


"The circular economy should be a central political, economic and social activity not only for national but for local and regional milieu, as it offers the potential to set a strong perspective on renewed competitiveness, positive economic development, and sustainable added value creation. Training materials, developed within "CIRTOINNO project" makes a strong case for business models centred on use, rather than consumption, and regenerative practices that have, on top of economic advantages, beneficial impacts for tourism business as a whole".

*Professor Robert Bęben,*
*Head of Marketing Faculty at the*
*University of Gdansk, Entrepreneur and*
*Chairman of Professor Brunon Synak*
*Pomeranian Research Institute*

Modern selling points in Polish tourism will take their roots mostly from the principles and concepts of the circular economy. Once the inventory of non-technological resource and energy flows is established, we are able to co-design and shape a concept of circular tourism preserving Polish landscapes and local knowledge and culture. By using training materials, elaborated by the team of Cirtoinno project, both trainers and representatives of tourism business can develop their skills and competencies in terms of business model innovation, marketing, energy, design thinking and circular economy in general.

*Hanna Burno,*
*President of Baltic Health Tourism Cluster*
*and Owner of ExtraInHotel portal*

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"Prosperity, care for the climate and improving the quality of life are three very important challenges for the coming years. That is why politicians, entrepreneurs or local communities should draw inspiration and benefits in circular economics.

Training materials developed as part of the "CIRTOINNO project" are a very valuable source of knowledge about business models and processes focused on use rather than consumption. They are highly important in particular in the tourism business, which should be built on friendly hosts and their environment and be an inspiration for guests how to be prosperous and at the same time show the utmost care for the environment."

*Robert Bęben, Associate Professor, Head of Marketing Department at the University of Gdansk, Entrepreneur and Chairman of Professor Brunon Synak Pomeranian Research Institute*

"Modern selling points in Polish tourism will take their roots mostly from the principles and concepts of the circular economy. Once the inventory of non-technological resource and energy flows is established, we are able to co-design and shape a concept of circular tourism preserving Polish landscapes and local knowledge and culture. By using training materials, elaborated by the CIRTOINNO project team, both trainers and representatives of tourism business can develop their skills and competencies in terms of business model innovation, marketing, energy, design thinking and circular economy in general. I am confident that this is also true for the other regions of the South Baltic including Denmark, Sweden and Lithuania that co-created the CIRTOINNO project.

*Hanna Burno, President of Baltic Health Tourism Cluster and Owner of ExtraInHotel portal*