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CLAY Closing the Loop Along with the Youth

IO1 – Task 1

Methodological Framework

Handbook

Summary

The following frameworks are included in this handbook and described regarding their methodological goals:

This document is designed to be circularly developing: The methodology of the project will be subject to revision, discussion and development in the project meetings.

1 Framework for circular economy (CE)

Methodological goal: To have a common understanding of circular economy, it is important to agree on a common understanding and approach towards CE for the CLAY project partnership.

1.1 Definition and concept

Methodological goal: This section outlines the general definition and concept of "circular economy" for the CLAY project.

More than 100 different definitions of circular economy are used in scientific literature and professional journals. There are so many different definitions in use, because the concept is applied by a diverse group of researchers and professionals[1]. A philosopher of science emphasizes a different aspect of the concept than a financial analyst. The diversity of definitions also makes it more difficult to make circularity measurable.

Within the CLAY project, we define CE as: A **circular economy** is a systemic approach to **economic** development designed to benefit businesses, society, and the environment – or the common three core pillars of sustainability: the economic, ecologic and social dimension. In contrast to the 'take-make-waste' linear model, a **circular economy** is regenerative by design and aims to gradually decouple growth from the consumption of finite resources. Therefore, circular economy is a model of production **and** consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible, and rethinking and redesigning the respective production and business processes. In this way, the **life cycle of products is extended.** In practice, CE implies **reducing waste** to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible. Materials can be productively and effectively be used again and again, thereby **creating further value**. This is a departure from the traditional, **linear** economic model, which is based on a take-make-consume-throw away pattern and relies on large quantities of cheap, easily accessible materials and energy.

Definitions for CE often focus on the use of raw materials or on system change. Definitions that focus on the use of resources often follow the 3-R approach:

- Reduce/Replace (minimum use of finite raw materials; replacement of potentially hazardous components and production processes)
- Reuse (maximum reuse of products and components)
- Recycle (high quality reuse of raw materials)

[1] J. Kirchherr, D. Reike, M. Hekkert: Conceptualizing the circular economy: An analysis of 114 definitions. In: Resources, conservation and recycling, 2017.

The **Ellen MacArthur Foundation**[2] (EMF) is among the most prominent NGO in the field of circular economy, was launched in 2010 and wants "to accelerate the transition to a circular economy".

EMF bases circular economy on the principles of **designing out waste and pollution**, **keeping products and materials in use**, and **regenerating natural systems**.[3]

- **DESIGN OUT WASTE AND POLLUTION**

What if waste and pollution were never created in the first place?

A circular economy reveals and designs out the negative impacts of economic activity that cause damage to human health and natural systems. This includes the release of greenhouse gases and hazardous substances, the pollution of air, land, and water, as well as structural waste such as traffic congestion

- **KEEP PRODUCTS AND MATERIALS IN USE**

What if we could build an economy that uses things rather than uses them up?

A circular economy favours activities that preserve value in the form of energy, labour, and materials. This means designing for durability, reuse, remanufacturing, and recycling to keep products, components, and materials circulating in the economy. Circular systems make effective use of bio-based materials by encouraging many different uses for them as they cycle between the economy and natural systems.

- **REGENERATE NATURAL SYSTEMS**

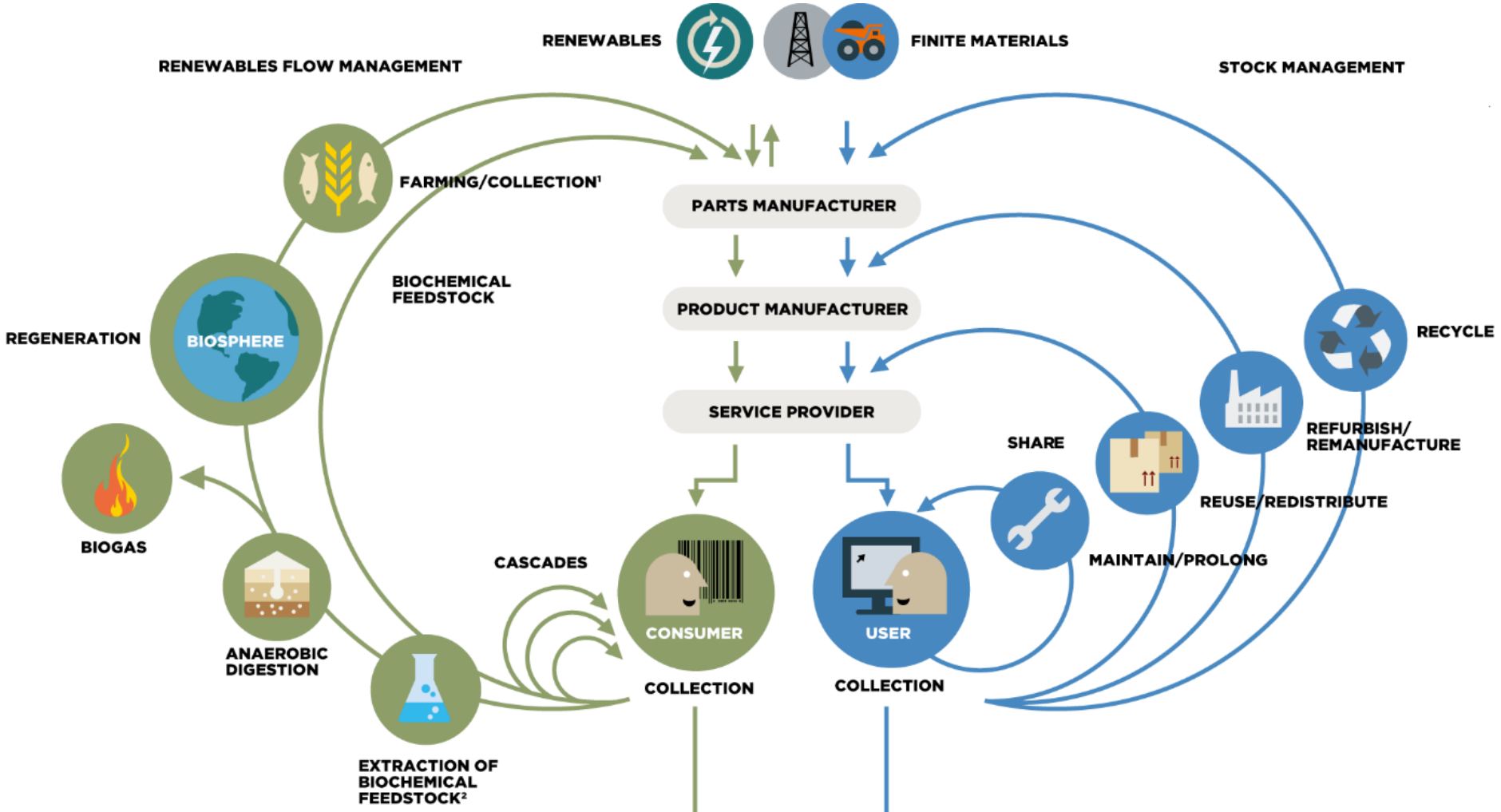
What if we could not only protect, but actively improve the environment?

A circular economy avoids the use of non-renewable resources and preserves or enhances renewable ones, for instance by returning valuable nutrients to the soil to support regeneration, or using renewable energy as opposed to relying on fossil fuels.

EMF uses the following diagram to illustrate their concept of circular economy.

[2] Link: https://www.ellenmacarthurfoundation.org/

[3] Taken from https://www.ellenmacarthurfoundation.org/explore



1 Hunting and fishing
2 Can take both post-harvest and post-consumer waste as an input

SOURCE
Ellen MacArthur Foundation
Circular economy systems diagram (February 2019)
www.ellenmacarthurfoundation.org
Drawing based on Braungart & McDonough, Cradle to Cradle (C2C)

ELLEN MACARTHUR FOUNDATION

A few definitions for properly understanding the diagram:

- **MAINTAIN/PROLONG (&SHARE)**
  This innermost loop of the technical cycle shows the strategy of keeping products and materials in use by prolonging their lifespan for as long as possible through designing for durability as well as maintenance and repair. These longer-lasting products can then be shared amongst users who are able to enjoy access to the service they provide, removing the need to create new products.

- **REUSE/REDISTRIBUTE**
  Technical products and materials can also be reused multiple times and redistributed to new users in their original form or with little enhancement or change. Marketplaces such as eBay are proof of this already well-established approach.

- **REFURBISH/REMANUFACTURE**
  Remanufacturing and refurbishment are two similar, yet slightly different, processes of restoring value to a product. When a product is remanufactured it is disassembled to the component level and rebuilt (replacing components where necessary) to as-new condition with the same warranty as a new product. Refurbishment is largely a cosmetic process whereby a product is repaired as much as possible, usually without disassembly and the replacement of components.

- **RECYCLE**
  Recycling is the process of reducing a product all the way back to its basic material level, thereby allowing those materials (or a portion of them at least) to be remade into new products. While this is undoubtedly an important process in a circular economy, the loss of embedded labour and energy, the necessary costs to remake products entirely, and the inevitable material losses mean that it is a lower value process than those closer to the centre of the system diagram, such as reuse and remanufacturing.

- **CASCADES**
  This loop, within the biological cycle, refers to the process of putting used materials and components into different uses and extracting, over time, stored energy and material order. Along the cascade, this material order declines until the material ultimately needs to be returned to the natural environment as nutrients. A cascade, for example, might be a pair of cotton jeans being turned into furniture stuffing and then into insulation material before being anaerobically digested so that it may be returned to the soil as nutrients.

BIOLOGICAL AND TECHNICAL MATERIAL FLOWS

The first thing that most people notice about the diagram is the separation into two distinct halves, or cycles, which represent **two fundamentally distinct flows of material: biological and technical**.

Biological materials - represented in green cycles on the left side of the diagram - are those materials that can safely re-enter the natural world, once they have gone through one or more

use cycles, where they will biodegrade over time, returning the embedded nutrients to the environment.

Technical materials - represented in blue on the right hand side - cannot re-enter the environment. These materials, such as metals, plastics, and synthetic chemicals, must continuously cycle through the system so that their value can be captured and recaptured.

ACCESS VERSUS OWNERSHIP

One particular subtlety of the diagram is the **distinction between consumers and users**. In a circular economy, **biological materials** are the only ones that can be thought of as **consumable**, while **technical materials** are **used**. It makes no sense to say that we consume our washing machines and cars in the same way that we consume food. This is a subtle, but important distinction in how we view our relationship to materials.

Further to this, it raises questions about the **necessity of owning products** in the way that we traditionally do. What benefit is there in owning a drill when you just want to put holes in your wall to hang a picture? **It is access to the service a product provides that is important, rather than the product itself**. Understanding this shift in mindset lays the groundwork to many of the practicalities of shifting our economy from linear to circular.

Circle Economy[4] is another non-profit organization that wants to "enable cities and businesses in the practical and scalable implementation of the circular economy". Circle economy has defined **7 key elements** for "making sense" out of CE, that will also be central for the CLAY project and are shown below.

In an effort to define a common language for the circular economy, Circle Economy has mapped the various terms and definitions used by over 20 organisations - NGOs, government agencies, academia, consultancies, etc. - working on elements of the topic. After interpreting and grouping these various terms, seven key elements emerged that defined the majority of terms

[4] Link: https://www.circle-economy.com/

linked to the circular economy. CLAY will also adopt these elements, since they emerged from research as the best existing concept for circular economy.

The following section describes the 7 key elements and gives practical examples what they mean in practice – for a disruptive startup, corporation and a circular job.[5]

1.2 Key elements of circular economy

Methodological goal: To effectively convey circular economy to the target group, the rather abstract definition in section 1.1 will be "operationalized" into key elements that will serve as the framework for all developed contents in CLAY project.

The key elements will be fundamental for the development of the training materials in IO3. The didactic approach can be described as a **"problem-solution-activation"-methodology**. After being introduced to the general vision of circular economy, the target group will be made aware of the problems of non-circular approaches to the 7 elements, introduced to existing solutions and benefits of circular approaches in practice, and activated by showing them how they are able to contribute to a more circular approach in their respective context.

A comprehensive way by Circle Economy to remember the 7 key elements is:

[5] The following section is taken from https://www.circle-economy.com/circular-economy/7-key-elements

D: DESIGN FOR THE FUTURE

Adopt a systemic perspective during the design process, to employ the right materials for appropriate lifetime and extended future use.

For the target group, this element means to be aware as a consumer, which products and services are designed in a circular way and should be supported/chosen in order to foster circular economy. Therefor, training materials will explain “circular design” of products and services and how to identify “circular” products and services.

Training materials will consist of explanatory input on DESIGN FOR THE FUTURE, examples for what this means in practice and case studies/interactive exercises (e.g. research tasks on companies’/organizations’ websites, application of circular thinking on non-circular examples) to apply the new knowledge in practice.

Examples, e.g.:

- As a startup, **Fairphone** designs modular mobile phones by using fair materials, good working conditions to enable the reuse and recycling of parts. The Fairphone 2, released in 2016, has anchored the company's niche position in the market.

- **Desso** is an international designer and producer of circular carpet tiles and broadloom. The company designs its own products and has developed innovative new techniques that allow its products to be collected and recycled or reused.
- An **architect** is responsible for designing buildings and by extension for the materials used during a building's construction, its energy efficiency during the use phase and the potential for material recovery when it is demolished. An architect can thus contribute to the circular economy by 'designing for the future'.

I: INCORPORATE DIGITAL TECHNOLOGY

Track and optimise resource use and strengthen connections between supply chain actors through digital, online platforms and technologies.

For the target group, this element means awareness for tracking circular economy-related activities and initiatives online. Even if it might be hard to adopt a completely "circular lifestyle" from the beginning on, gathering information and participating in activities is an apt strategy to address the target group's interest: Meeting like-minded people is among the top-rated interests of the target group and "Fridays-for-Future" has shown without a doubt, that the target group is interested in a sustainable (and circular) future.

The training materials will consist of explanatory input on how companies and organizations incorporate digital technology to foster circular economy and how people can actively participate and contribute online. Examples will show what digital technology means in regard to circular economy, complemented by case-studies and interactive tasks.

Examples, e.g.:

- **Floow2** is the first online, asset-sharing marketplace for companies. The platform reduces costs and increases product utilisation by matching supply and demand.
- **DHL** is a leading, global logistics service provider. The company is experimenting with integrating crowd-based logistics, drones and "parcelcopters" into its logistics systems and delivery chains.
- A **data analyst** makes sense of large amounts of information by means varying from simple data aggregation to complex data mining. The data analyst's occupation involves the 'incorporate digital technology' strategy and thus allows for smart systems and technology integration in the circular economy. This job often requires tertiary education in relatively new fields of data science and computer engineering.

S: SUSTAIN AND PRESERVE WHAT'S ALREADY THERE

Maintain, repair and upgrade resources in use to maximise their lifetime and give them a second life through take-back strategies, where applicable.

For the target group, this element means to raise awareness on the environmental impact of replacing products with new ones before their end-of-life. Also, this element includes awareness for maintenance, repair and related aspects that should be considered in consumption decisions. The target group is typically price-sensitive, i.e. young people have a high interest for

cheaper products – and repaired or refurbished products come at a way cheaper price (economically and ecologically) than new products.

Training materials will focus on the meaning of repairing, maintaining from an economic, ecologic and social perspective – repair shops and similar organizations create jobs regionally and nationally and the economic "circle" also happens more regionally, while reducing waste and pollution of the environment. Examples will be used to show what this element means when put into practice and case studies and interactive exercises will be used to test the acquired knowledge.

Examples, e.g.:

- **ACTronics** remanufactures automotive electronic components, based on innovative and cost-effective processes. The company's rapid growth demonstrates the viability of its business model.
- **Royal Philips** is a global healthcare company that aims to make the world healthier and more sustainable through innovation. The company is starting to focus on remanufacturing and refurbishing programs for medical imaging equipment.
- The **appliance technician** contributes to the circular economy by extending the lifetime of products. By embodying one of the strategies of the circular economy, 'to preserve and extend what's already made', all repair and maintenance jobs are considered circular.

R: RETHINK THE BUSINESS MODEL

Consider opportunities to create greater value and align incentives through business models that build on the interaction between products and services.

For the target group, this again means to be aware of circular business models when making consumption decisions. But also, this element concerns the target group as being the entrepreneurs of the future. It is of paramount importance for a successful transition to a circular economy that more startups adopt circular business models – and they prove to be successful increasingly.

The training materials will include explanatory input on the "traditional" business model as well as the "circular" business model, comparing them based on sustainability criteria. Examples will be used to illustrate the difference and success of circular business models and interactive exercises to create circular business ideas.

Examples, e.g.:

- **Bundles** has a trailblazing product-as-a-service model by leasing Miele appliances. This promotes unique customer engagement and provides and incentivises product life-extension.
- **Auping** is a global mattress and bed manufacturer that is aiming to produce fully circular products. The company has plans to move towards pay per use leasing models for its beds to retain ownership of its products and raw materials.
- The **leasing process manager** is responsible for the coordination of the external service partners distributed across market segments. By contributing to the workings of a product

as a service model, the leasing process manager contributes to the circular economy through the 'rethinking the business model' strategy.

U: USE WASTE AS A RESOURCE

Utilise waste streams as a source of secondary resources and recover waste for reuse and recycling.

For the target group, this element stresses the importance of reducing "waste" – if by nothing else, then at least by recycling/separating their own waste. The goal is to raise awareness that "waste" often is just another term for "resource" – depending on which options are available for reprocessing it. And how the design of products and services already defines the amount and quality of "waste" at end-of-life.

The training materials will focus on the value of waste as a resource, by again giving explanatory input (this element also shows the difference between linear and circular economy), providing examples and "success-stories" in practice and apply the knowledge in interactive exercises.

Examples, e.g.:

- **Ioniqa** has developed a game-changing technology to produce high-grade raw materials from PET waste. It was awarded the 2016 Accenture Innovation Award in the circular economy category.
- **Renewi**, formed from the merger of Shanks and Van Gansewinkel, is a leading waste-to-product business that operates across nine countries. The company focuses on transforming waste materials into a wide range of useful products.
- The **recycling operative's** job consists of sorting through recyclable waste and separating materials to be recovered. This sorting and separating constitutes an essential element in the recycling process, which involves the 'use waste as a resource' strategy, and thus presents itself a circular job. Day to day activities of the recycling operative include physical labour and machine handling such as forklift driving – but even so: this job contributes more to a sustainable future than the well-paid job of the designer who developed the "waste".

P: PRIORITISE REGENERATIVE RESOURCES

Ensure renewable, reusable, non-toxic resources are utilised as materials and energy in an efficient way.

For the target group, this again focuses on their role as (future) consumers. Awareness needs to be created, that prioritizing regenerative resources is not an option, but a must for a sustainable future. The main "point-of-contact" for the target group with this topic will be in their consumption decisions. Fostering competencies and skills means to enable young people to identify products and services, which really prioritize regenerative resources and not using them to "green-wash" their other activities.

Training materials will focus on conveying the importance of renewable resources vs. finite resources. Again, explanatory input will be combined with examples and interactive exercises/case studies.

Examples, e.g.:

- **SkyNRG** is the global leader in sustainable aviation fuels and has pioneered new supply chains and production processes. It has supplied fuel to over 25 airlines, on all continents.
- **Vitens** is the largest drinking water company in the Netherlands and is pioneering innovative approaches to ensure a sustainable and continued supply of drinking water to the country.
- The **solar panel installer** works within the energy sector to promote the use of solar as a renewable energy source. The job contributes to the circular economy by 'prioritising regenerative resources', and making them available to others.

T: TEAM UP TO CREATE JOINT VALUE

Work together throughout the supply chain, internally within organisations and with the public sector to increase transparency and create joint value.

For the target group, this means awareness and understanding that circular economy can only be reached "as a team". Cooperation is more important than competition – competition is reframed as "competing for the best circular economy cooperation in practice". Therefore, "teaming up" for circular economy is among the core objectives of CLAY that shall be reached through the OER platform.

Explanatory input will be used to show how collaboration and cooperation is fundamental for circular economy to become reality. Examples will illustrate teamwork for circular economy in practice and case-studies and interactive exercises will engage the target group to create new teams and initiatives.

Examples, e.g.:

- Dutch **aWEARness** focuses on circular business-to-business workwear. It aims to increase transparency and information sharing in order to strengthen cooperation throughout the entire textile supply chain.
- **DSM** is a multi-national, chemical company that is active in health, nutrition, and materials. The company engages in frequent collaboration internally to develop innovative solutions, and also engages in a variety of partnerships with academia and the public sector.
- The **director of a trade association** manages a membership organisation composed of multiple companies within a specific industry. The director can support the circular economy by encouraging greater collaboration, knowledge sharing, and networking between companies. As such, the director can employ the 'collaborate to create joint value' strategy in order to contribute to the circular economy.

2 Framework for core topics

Methodological goal: In section 1 above, the methodological framework for circular economy is defined for the CLAY project. To catch the attention of the target group, core topics for CLAY content are defined that are relevant for the target group's everyday life.

Since the target group for CLAY is the youth (see section 3 below), we will focus on topics with a high relevance for young people. The concept of circular economy will be applied to/discussed for:

- **E-waste**, dealing with circular economy elements of smartphones, TVs and other electronic devices.
- **Plastics and packaging**, covering aspects of plastic packaging, soft drinks in cans and bottles, snacks etc.
- **Food**, raising awareness for regional and seasonal, organic vs. "normal" farming.

For these topics, best practices will be collected by the partners. Also, additional best practices (that are not falling under one of these topics) will be used to demonstrate that circular economy is applicable in virtually any area.

While these topics will be used to explain circular economy in practice, the topics for developing case studies and training practical circular economy skills will also include **fashion** and **internet**, since both are highly relevant for the target group **and** for circular economy/sustainability.

Since the objective of CLAY is to raise awareness **and** to build competencies for circular economy, the topics will be presented in an interactive, challenging way via the OER platform to engage young people to actively contribute to circular economy. The contents of CLAY's training materials will focus on practical relevance of circular economy for young people's daily lives as well as for their future (business) life.

The goal of CLAY is no indoctrination of the target group, but to raise awareness for circular economy and critical thinking on linear economy and other non-sustainable processes.

3 Framework for target group

Methodological goal: To support the circular economy concept in becoming reality, CLAY specifically targets the youth. Therefore, the previously described concept and topics has to be presented in a didactically and pedagogically sound way, taking into account the specific needs of the target group.

The circular economy concept is key to a sustainable future. Competencies and skills for CE range from knowledge of resources and raw materials to an understanding of social behaviours required to create a model that works for society, the economy and the environment.

In general, the following main areas of CE competence can be distinguished:

- **Technical competences**: competences related to specific technical tasks in each occupation
- **Generic interdisciplinary competences**: related to transversal areas of knowledge needed to support any occupation and organisation
- **Normative competences**: (also) transversal skills related to the vision and values needed to support the transition to a circular economy

Within CLAY, the **focus of the training materials** will be on **generic interdisciplinary** and **normative competences**. Awareness for technical competences will be included, but since technical competences are highly diverse and do not affect work- **and** every-day-consumption-life, they will not be treated in detail. However, as described above, examples for technical competences related to circular economy will be included in the presentation of the key elements (i.e. job-related aspects of circular economy) in the training materials.

Placing this focus is also aimed at reducing the cognitive load for the target group: Studies have shown, that awareness among the target group for circular economy is rather low – presenting the general topic of circular economy **and** showing what this means in practice **and** presenting specific technical skills for a variety of professions would most probably be too much. The target group has limited amount of time and interest, therefore, CLAY aims at reaching out to the target group with specifically developed materials taking this into account. Accessible online, following a modular approach to be also “consumable” in short amounts of time.

The concept of circular economy covers two areas of transformation: **production and consumption**. For both areas, **theoretical knowledge and practical skills** need to be continuously – or circularly – developed and updated. The target group is already taking part in economy as a consumer and will soon also be part of production processes – the target group, **young people are the employees and entrepreneurs of the future**.

The target group has also been selected, because **young people** can **have** a **big impact** on **their parents’ behavior** and are digital-natives who can easily team-up online on circular economy topics.

The **main objectives** of CLAY are to **improve the awareness, competences and skills for CE among young people**. That includes a thorough understanding of the circular economy concept (as laid out in this document), practical use cases and what it means to be a “circular

consumer". To reach this objective, a circular behavior index and online training materials on CE – specifically designed for the target group – will be developed and provided via an Open Educational Resource (OER) platform.

The target group consists of young people in schools and other educational settings, but also of already grown-up people on the verge of the beginning of their work life. Therefore, CLAY will address the target group through a network of stakeholder organizations working directly with young people, aged between 16-25. This will be one of the main outcomes of the national reports (IO1/T3 – see below), to create a list of stakeholders that will be addressed in order to reach out to the target group in the respective partner countries.

The project consortium will promote the training materials in their professional networks and address national stakeholders to use the CLAY training materials. CLAY will be directly promoted to the target group via a Facebook page and the project website. By developing and promoting CE competences and skills among the youth, CLAY aims at transforming the next generation workforce into CE ambassadors, that promote and implement the concept within their everyday behavior, their social context, their business life and their behavior impacting on the environment.

Since the target group could also be called "generation digital", CLAY will develop online training materials on CE to develop competences and skills. The materials will be provided via an Open Educational Resource (OER) Platform that can be used by target group itself or by educators, trainers or other stakeholders who want to include the CLAY training materials in their courses. Therefore, the CLAY training materials will work as an e-learning as well as in a blended learning scenario. Another reason for focusing on online training materials is, that the project consortium of CLAY aims at becoming more circular itself. Therefore, no hard-copy training materials will be produced in the project. The training materials can be used online or downloaded and printed out on an as-needed base.

4 Framework for best practices

Methodological goal: The best practice examples from all project partner countries will be used to show the target group, that circular economy is already happening today, in their own country. Therefore, they will be included in the training materials to illustrate specific aspects of CE and the key elements, or as "research tasks" via their online presence.

The framework for the best practice examples aims to illustrate the concept of circular economy according to the 7 key elements described in section 1.

The coordinator bit management will develop the framework for best practices as an Excel-template and share it with the partners via CLAY Google Drive.

The template will include

- **general information on the company/organization** (name, title of project, contact details including URL to later collect further information)
- the **7 key elements of CE** (see section 1.2), with a focus on
  - **Topic/content**
    What kind of CE? Why is the company a good example for CE for this element?
  - **Specific results**
    What are results of CE in this company?
  - **"Return on Investment"**
    What are the economic implications of CE for this company?
  - **Lessons learned**
    What could other companies and CLAY's target group learn from this CE?

Partners will collect min. 2 best practices for their respective countries, preferably fitting into one of the core topics described in section 2. Bit management will also collect min. 2 international best practices.

Together with the framework for circular economy (section 1), the best practices will be the fundamental inputs for the development of the training materials.

5 Framework for national reports

Methodological goal: The national reports will be used to identify the current state of circular economy, the political programs and strategies and potential stakeholders working with the target group in all partner countries. The results of the national reports will be used in the creation of the training materials and in dissemination activities.

The framework for the national reports includes the following sections:

- **Data, statistics and reports**
  In this section, partners shall identify sources for national data on circular economy. This data/output will be used in the creation of training materials (IO3) to illustrate the current state of circular economy in the respective country.
- **Political programs, strategies and initiatives**
  In this section, partners shall identify programs, initiatives on a global-to-national level. This data/output will be used in the creation of training materials (IO3) to illustrate circular economy as a "global phenomenon" that is a task and mission everywhere, also in the project partner countries. CE is not happening "somewhere else" or "only here".
- **Stakeholder research**
  In this section, partners shall identify stakeholders that are directly working with CLAY's target group. This data/output will mainly be used for dissemination of CLAY's project results, but also to gather needed feedback during project implementation (e.g. experts' review of behavioural index in IO2, or for "recruiting" participants for pilot tests of the training materials).
- **Best practices**
  The best practices will be included in the national report to illustrate how companies adopt a circular approach and thereby contribute to CE – which is measured in the results of "Data, statistics and reports", by following and integrating "Political programs and initiatives".

A template for the national report will be provided by coordinator bit management.

Bit management will also create an international report of similar structure to have a "global benchmark" for national data.

6 Framework for intellectual outputs

To reach the objectives outlined above, the following intellectual outputs have been defined and will be developed and implemented throughout the project.

IO1: Circular economy methodological framework

Leading Organisation: bit management

Methodological goal: In this output, the foundation for all other IOs is developed.
Task 1 will provide "the plan" for implementing CLAY.
Task 2 serves to collect best practice examples of circular economy from all participating countries. The structure of the template is built on the key elements described in section 1.
Task 3 serves to identify the current status of CE in the participating countries (compared to an international/global status) and to identify national stakeholders and beneficiaries for CLAY project outputs.
Best practice examples and national data will also be used in promotional material for CLAY and in training materials.

IO1 – Task 1 Methodological Framework and Handbook

This task (contained in and completed with this document) serves to have a common agenda for all partners how to develop the outputs in order to achieve the project's objectives.

The main objective of the framework/handbook is also to define the methodology for developing the intellectual outputs (e.g. the training materials in IO3).

IO1 – Task 2 Online repository for best practice examples

In order to make the circular economy concept less abstract and more concrete for the target group, each partner will collect at least two best practice examples from their respective country. The framework for the national best practice examples has already been uploaded to GoogleDrive by bit.[6] Bit has also uploaded best practices that will serve as a guideline for the partners on how to complete the framework.[7] Bit will also provide international best practices. The framework is based on the 7 key elements described above. Each best practice should include and describe at least 3 different key elements.

IO1 – Task 3 National reports

The national reports will be developed by each partner for their respective country. The national report will include:

- 2 pages (text) of
  - **national statistics** (environmental statistics, circular economy relevant data)
  - **national political programs/strategies/initiatives** regarding circular economy

[6] Document in GD folder IO1: „IO1_T2_Best Practices_Framework_bit.xlsx"

[7] Document in GD folder IO1: „IO1_T3_Best practice_Example_bit.xlsx"

  - **stakeholders**: research organizations that are engaged in promoting circular economy in the respective country and organizations that focus on environmental/sustainability/circular economy topics for the youth
- 1-2 pages text for each best practice example
  - Short description of the company/organization
  - Description of circular economy approach (see footnote 5 for xls-best practice)

The national reports will be merged into one document by the coordinator bit management.

Bit management will also develop an international report of similar structure (2 pages data and statistics, 2 international best practice examples) and include general information on circular economy.

Together, this will produce a report of approx. 30 pages.

Bit management will then produce a first training content/promotional material from this report. The content will be used on the OER platform (to give the target group a general information and introduction to circular economy) and the promotional material will be used on the website, Facebook page and for presentations at multiplier events.

The report and best practice materials will be translated and available in all partner languages.

IO2: Circular Behaviour Index

Leading organization: SBTC

Methodological goal: The CLAY behavior index will be specifically designed and developed for measuring attitudes and behaviours, competences and skills of young people towards circular economy. The items and content of the index/questionnaire will be based upon the general definition, concept and key elements defined in IO1 (described in section 1 of this document). With the national results of the index, focal points for the training materials will be defined.

IO2 – Task 1 Preparing item pool for index

The item pool for the index (questionnaire) will be developed based on a literature research and on the results from IO1. The items will be the key indicators to measure the youth behavior in circular economy issues.

IO2 – Task 2 Assessment of items in the Index by Experts

The item pool will next be refined/assessed by experts from all participating countries (5 experts per partner country – 20 experts in total) to create a more comprehensive and complete index for the target group.

IO2 – Task 3 Development of proposed index

Based on this feedback, the index will be updated and pilot-tested with the target group. The pilot test of the index will be conducted with 40 participants in each partner country.

IO2 – Task 4 Measuring the Validity and Reliability of Index

The index will then be reapplied in each partner country to test for reliability and validity.

IO2 – Task 5 Final Version of Index and Translation

After the validity and reliability assessment, the final version of the index will be translated into all project languages.

The Circular Behaviour Index will be disseminated and used during the local multiplier events. The project partners will present the index to the target group via their stakeholder networks (e.g. national stakeholders identified in IO1/T3) and will disseminate it via the project website, social media, press releases and other means of dissemination.

IO3: Development of online training materials – Moving towards circular economy with the youth

Leading organization: ProEduca z.s.

Methodological goal: The online training materials will be developed based on the results of IO1 (definition, concept, key elements, best practices) and IO2 (results of pilot tests). They will consist of a modular package, focusing on (necessary) theoretical knowledge, practical relevance and best practices, and interactive exercises. The content will be specifically designed for the target group (graphical design, language) and will be designed to work in an e-learning as well as in a blended learning scenario. Young people will be able to use the materials by themselves; educators and trainers will be able to include the online materials in blended learning settings. The training materials will also contain a user manual for the OER platform, that makes access and usage for all users as easy as possible.

IO3 – Task 1 Determination of Content

Based on results from IO1 and IO2 the detailed specifications of the training contents to-be-developed will be done. The generic plan for the training materials consists of 5 main modules, that will each include theoretical input (section 1 of this document), practical implications (best practices) and interactive exercises.

- Differences between linear and circular economy
- Concept of circular economy will be explored in detail
- Designing circular economy will be explained
- Strategies of circular economy
- EU policy framework and financing products, instruments and services

IO3 – Task 2 Preparing Guide for Publication

Based on the results of Task 1, a detailed concept for each of the modules will be developed collaboratively, again taking into account the results from IO1 and IO2. Based on the detailed concept, the training modules and contents will be developed and finalized. All developed training material will be proofread in this task.

IO3 – Task 3 Preparing Brochures for Publication

Creating awareness for CE is also a major objective of CLAY. Therefore, promotional material (also including results from IO1/T3 and best practices) on the training content will be developed, e.g. an online brochure. The promotional material will be distributed to the national stakeholders identified in IO1/T3, on the project website and in all other dissemination activities. The online brochure and promotional material will be proofread in this task.

IO3 – Task 4 Translation of resources to other languages

All materials developed in Tasks 2 and 3 will be translated into all 5 project languages (originally developed in English, to be translated into Italian, German, Czech, Turkish).

IO3 – Task 5 Publishment and Distribution of training materials

Once the training materials are available in all project languages, they will be published onto the OER platform and promotional materials will be disseminated through all channels defined in the dissemination plan[8], reaching out to the target group, educators and trainers and all target group-related stakeholders.

IO4: CLAY OER Platform

Leading Organisation: Training 2000

Methodological goal: To best reach the target group and enable easy access to the CLAY training materials, an OER platform will be developed and implemented. All results from IO1, IO2 and IO3 that are relevant for improving awareness, competences and skills on CE among the youth will be accessible via the OER platform. The platform will also be used to promote activities and events. Publishing the CLAY results on the OER platform also makes it easy to continuously update the materials, incorporating feedback from users and stakeholders.
The OER platform will be accessible via the project website – therefore all dissemination channels will refer to and promote the project website.

TASK 1 Definition of the platform specifications

The leading partner, Training 2000 will identify the most effective online system for CLAY purposes and create the OER platform. The technical framework will also be the basis for the development of further online training resources to be included in the online training platform.

TASK 2 Creation and sharing

Once Task 1 is completed and the specifications are complete, the platform will be developed and shared among the partners.

TASK 3 Design, adaptation and uploading resources on the platform

All partners will contribute in developing the online resources (IO3) by collecting related material and by developing material in line with the training path and the framework agreed upon. The online modules will also be translated in partner languages and made accessible via the OER platform.

[8] CLAY Google Drive https://drive.google.com/drive/folders/1KbeIe3O8pWvRQQbPwgADNs8aJoo5SqoX

TASK 4 Finalization of the OER Platform

With all training materials uploaded and other functionalities of the platform in place, the platform will be finalized.

TASK 5 Modification and adjustments according the evaluation of pilot trainings

Once the platform is finalized (Task 4 completed), pilot test will be conducted by all partners to gather feedback regarding necessary modifications and adjustments.

TASK 6 Finalization

Once the pilot testing is completed and necessary updates implemented, the OER platform including training materials is finalized.

All partners will foster the connection of young people, youth organisations, youth centres, youth trainers external organisations and other stakeholders. People will be encouraged to be a part of the community and to share experiences and technologies. Each partner will be responsible for introducing at least 40 users on the online training platform.